

101773253

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SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: DAWN GARRETT Examiner #: 76107 Date: 11/6/2002
 Art Unit: 1774 Phone Number 30 5-0788 Serial Number: 09/842,228 - parent of
 Mail Box and Bldg/Room Location: CP3 11 D30 Results Format Preferred (circle) PAPER DISK E-MAIL
 10/773,253

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: ORGANIC LUMINOUS MATERIAL AND ORGANIC LIGHT-EMITTING DEVICE

Inventors (please provide full names):

KOTA YOSHIKAWA MASASHI KIJIMA, HIDEKI SHIRAKAWA,
TKUO KINOSHITA

Earliest Priority Filing Date: JAPAN 2000-128364 4/27/2000
(ALSO JAPAN 2000-288692 AND JP 2001-12535
FOR SEQUENCE SEARCHES ONLY Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

PLEASE SEARCH ATTACHED:

- (A) ATTACHED FORMULA (2) AS PART OF ORGANIC LIGHT-EMITTING DEV
 (B) COMPOUND (3)
 (C) COMPOUND (5)
 (D) COMPOUND (6)

THANK YOU.

STAFF USE ONLY

Searcher: K. Fuller

Searcher Phone #: _____

Searcher Location: _____

Date Searcher Picked Up: _____

Date Completed: 11/13/02

Searcher Prep & Review Time: 30

clerical Prep Time: _____

Online Time: 44

TO-1590 (8-01)

Type of Search

NA Sequence (#) _____

AA Sequence (#) _____

Structure (#) 2

Bibliographic _____

Litigation _____

Fulltext _____

Patent Family _____

Other _____

Vendors and cost where applicable

STN _____

Dialog _____

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Dr.Link _____

Lexis/Nexis _____

Sequence Systems _____

WWW/Internet _____

Other (specify) _____

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STRUCTURE FILE UPDATES: 11 NOV 2002 HIGHEST RN 473219-67-9
DICTIONARY FILE UPDATES: 11 NOV 2002 HIGHEST RN 473219-67-9

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

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Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

=> FILE HCAPLUS

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FILE COVERS 1907 - 13 Nov 2002 VOL 137 ISS 20
FILE LAST UPDATED: 12 Nov 2002 (20021112/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

CAS roles have been modified effective December 16, 2001. Please check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

=> D QUE L26

L5 STR

Cy \sim C \equiv C
1 2 3

NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM

KATHLEEN FULLER EIC 1700/LAW LIBRARY 308-4290

GGCAT IS UNS AT 1
DEFAULT ECLEVEL IS LIMITED

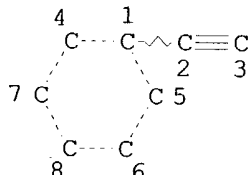
GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 3

STEREO ATTRIBUTES: NONE

L7 SCR 2043

L9 6191 SEA FILE=REGISTRY SSS FUL L5 AND L7

L18 STR



6,191 polymers with this structure as a monomer or as a structurally repeating unit

NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 8

STEREO ATTRIBUTES: NONE

L20 5606 SEA FILE=REGISTRY SUB=L9 SSS FUL L18

L21 5090 SEA FILE=REGISTRY ABB=ON L20 NOT 1-10/M

L22 3969 SEA FILE=HCAPLUS ABB=ON L21

L23 55 SEA FILE=HCAPLUS ABB=ON L22(L) LUMIN?

L24 40 SEA FILE=HCAPLUS ABB=ON L22(L) LIGHT?(L)?EMIT?

L25 2327 SEA FILE=HCAPLUS ABB=ON L22(L) (PREP OR IMF OR SPN)/RL

L26 38 SEA FILE=HCAPLUS ABB=ON L25 AND (L23 OR L24)

=> D L26 1-38 ALL HITSTR

38 CA references from the structures with utility

L26 ANSWER 1 OF 38 HCAPLUS COPYRIGHT 2002 ACS
AN 2002:650752 HCAPLUS
TI Synthesis, Chain Rigidity, and Luminescent Properties of Poly[(1,3-phenyleneethynylene)-alt-tris(2,5-dialkoxy-1,4-phenyleneethynylene)]s
AU Chu, Qinghui; Pang, Yi; Ding, Liming; Karasz, Frank E.
CS Department of Chemistry, Center for High Performance Polymers and Composites, Clark Atlanta University, Atlanta, GA, 30314, USA
SO Macromolecules (2002), 35(20), 7569-7574
CODEN: MAMOBX; ISSN: 0024-9297
PB American Chemical Society
DT Journal
LA English
CC 35-5 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 73
AB Sol. poly[(1,3-phenyleneethynylene)-alt-tris(2,5-dialkoxy-1,4-phenyleneethynylene)] derivs. (I) have been synthesized by using the Heck-type coupling reaction. Even with a significant increase in the p-phenyleneethynylene content, the copolymers exhibit a random-coil conformation in THF soln., with a Mark-Houwink exponent detd. to be

- .alpha. .apprxeq. 0.78. As a result of the extended conjugation length of the chromophore, the absorption and emission .lambda.max values of I are notably red-shifted (by about 30-40 nm) from that of poly[(1,3-phenyleneethynylene)-alt-(2,5-dialkoxy-1,4-phenyleneethynylene)] derivs. (II). The fluorescence quantum efficiency of I is estd. to be .phi.fl .apprxeq. 0.50, slightly higher than that of II (.phi.fl .apprxeq. 0.44). The fluorescence of I in the solid state is strong, indicating its potential for various device applications. LEDs based on I emitted green-yellow EL with an external quantum efficiency of 0.013%.
- ST polyphenyleneethynylene deriv synthesis structure luminescence optical property; electroluminescence polyphenyleneethynylene deriv light emitting diode
- IT UV absorption
(UV-visible; of poly[(1,3-phenyleneethynylene)-alt-tris(2,5-dialkoxy-1,4-phenyleneethynylene)]s)
- IT Polymer chains
(conformation; of poly[(1,3-phenyleneethynylene)-alt-tris(2,5-dialkoxy-1,4-phenyleneethynylene)]s)
- IT Electroluminescent devices
(contg. poly[(1,3-phenyleneethynylene)-alt-tris(2,5-dialkoxy-1,4-phenyleneethynylene)]s)
- IT Brightening
Electric current-potential relationship
Luminescence, electroluminescence
(of LED contg. poly[(1,3-phenyleneethynylene)-alt-tris(2,5-dialkoxy-1,4-phenyleneethynylene)]s)
- IT Luminescence
Viscosity
(of poly[(1,3-phenyleneethynylene)-alt-tris(2,5-dialkoxy-1,4-phenyleneethynylene)]s)
- IT Aggregation
(of poly[(1,3-phenyleneethynylene)-alt-tris(2,5-dialkoxy-1,4-phenyleneethynylene)]s in soln.)
- IT Solvent effect
(on optical properties of poly[(1,3-phenyleneethynylene)-alt-tris(2,5-dialkoxy-1,4-phenyleneethynylene)]s)
- IT Polyphenyls
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyacetylene-; synthesis, chain rigidity, and luminescent properties of poly[(1,3-phenyleneethynylene)-alt-tris(2,5-dialkoxy-1,4-phenyleneethynylene)]s)
- IT Polyacetylenes
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyphenyl-; synthesis, chain rigidity, and luminescent properties of poly[(1,3-phenyleneethynylene)-alt-tris(2,5-dialkoxy-1,4-phenyleneethynylene)]s)
- IT 75-77-4, Trimethylsilyl chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(in reaction with dibutoxydiethynylbenzene)
- IT 128834-29-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(in reaction with trimethylsilyl chloride)
- IT 626-00-6, 1,3-Diiodobenzene 463296-96-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(in reaction with trimethylsilyl-capped dibutoxydiethynylbenzene)
- IT 472987-11-4P 472987-12-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(monomer; prepn. of, and in polymn. with dibutoxydiiodobenzene)
- IT 472987-10-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(prepn. of, and in reaction with diiodobenzene derivs.)

IT 67-56-1, Methanol 109-99-9, THF

RL: NUU (Other use, unclassified); USES (Uses)

(solvent effect on optical properties of poly[(1,3-phenyleneethynylene)-alt-tris(2,5-dialkoxy-1,4-phenyleneethynylene)]s)

IT 472987-13-6P 472987-14-7P 472987-15-8P

472987-16-9P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(synthesis, chain rigidity, and luminescent properties of poly[(1,3-phenyleneethynylene)-alt-tris(2,5-dialkoxy-1,4-phenyleneethynylene)]s)

RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

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- (10) Heck, R; Palladium Regents in Organic Synthesis 1990
- (11) Hu, B; Chem Phys 1998, V227, P263 HCAPLUS
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- (16) McQuade, D; Chem Rev 2000, V100, P2537 HCAPLUS
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- (24) Sperling, L; Introduction to Physical Polymer Science, 2nd ed 1992, P104
- (25) Tao, X; Adv Mater 1998, V10, P226 HCAPLUS
- (26) Trumbo, D; J Polym Sci, Polym Chem 1986, V24, P2311 HCAPLUS
- (27) Turro, N; Modern Molecular Photochemistry, Chapter 4 1991

IT 472987-13-6P 472987-14-7P 472987-15-8P

472987-16-9P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(synthesis, chain rigidity, and luminescent properties of poly[(1,3-phenyleneethynylene)-alt-tris(2,5-dialkoxy-1,4-phenyleneethynylene)]s)

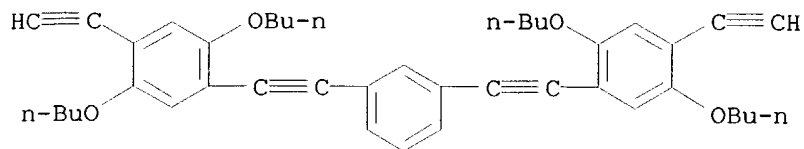
RN 472987-13-6 HCAPLUS

CN Benzene, 1,4-dibutoxy-2,5-diiodo-, polymer with 1,3-bis[(2,5-dibutoxy-4-ethynylphenyl)ethynyl]benzene (9CI) (CA INDEX NAME)

CM 1

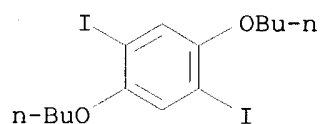
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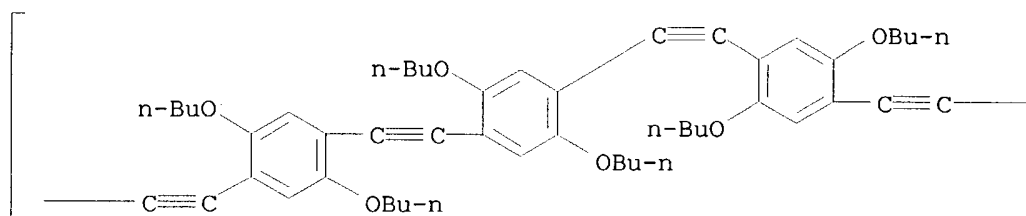
CM 2

CRN 145483-70-1
CMF C14 H20 I2 O2

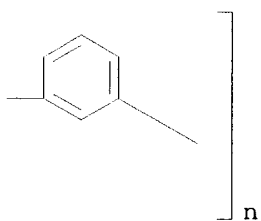


RN 472987-14-7 HCAPLUS
CN INDEX NAME NOT YET ASSIGNED

PAGE 1-A



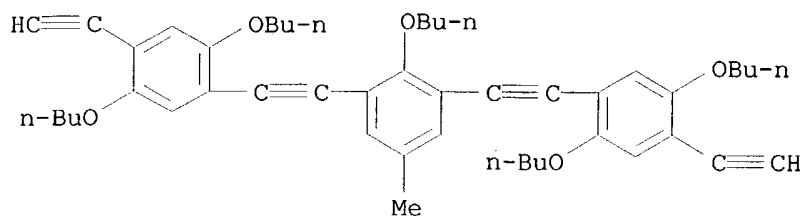
PAGE 1-B



RN 472987-15-8 HCAPLUS
CN Benzene, 2-butoxy-1,3-bis[(2,5-dibutoxy-4-ethynylphenyl)ethynyl]-5-methyl-, polymer with 1,4-dibutoxy-2,5-diiodobenzene (9CI) (CA INDEX NAME)

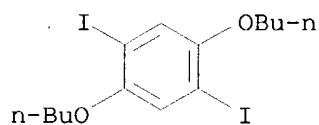
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CRN 472987-12-5
CMF C47 H56 O5



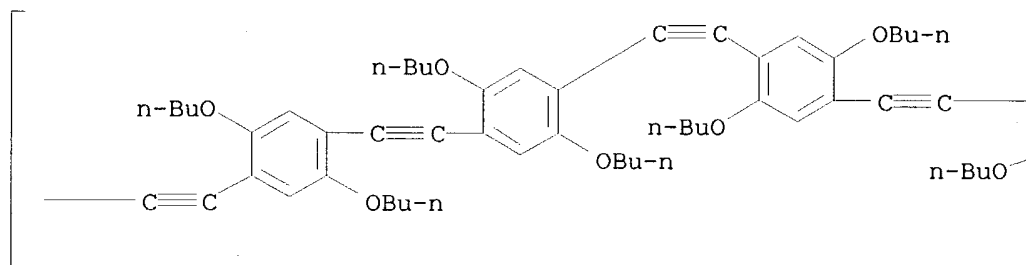
CM 2

CRN 145483-70-1
CMF C14 H20 I2 O2

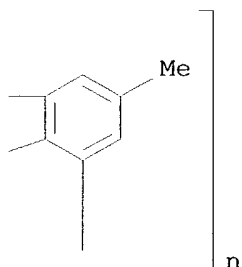


RN 472987-16-9 HCAPLUS
CN INDEX NAME NOT YET ASSIGNED

PAGE 1-A



PAGE 1-B



L26 ANSWER 2 OF 38 HCAPLUS COPYRIGHT 2002 ACS
AN 2002:559950 HCAPLUS
DN 137:248073
TI Synthesis and optical properties of a blue-light-emitting chemosensory

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- polymer
- AU Zhang, Yan; Murphy, Clifford B.; Praga, Robert; Pluchino, Kristyn; Ferry, Vivian; Jones, Wayne E., Jr.
- CS Chemistry Department and Institute for Materials Research, State University of New York at Binghamton, NY, 13902, USA
- SO Polymeric Materials Science and Engineering (2002), 87, 293-294
CODEN: PMSEGD; ISSN: 0743-0515
- PB American Chemical Society
- DT Journal; (computer optical disk)
- LA English
- CC 35-7 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 36
- AB A conjugated polymer, ttp-PPETE, was prepd., where ttp = terpyridine functions as receptor and poly[p-(phenylene ethynylene)-alt-(thienylene ethynylene)] as the main chain. The analog with N,N-diethylcarbamoyl group on the backbone, ttp-a-PPETE was prepd. in good yield by step growth coupling polymn. of 2,5-diethynyl-1,4-bis(N,N-diethylcarbamoyl)benzene and 4'-[4-[2-(2,5-dibromothiophen-3-yl)vinyl]phenyl]-[2,2':6',2'']terpyridine in THF catalyzed by Pd(PPh₃)₄ and CuI. Only one absorption band was obsd. for ttp-a-PPETE above 300 nm, and this energy band at 333 nm was assigned to the .pi.-.pi.* transition of the conjugated polymer main chain. By comparison with the ttp-PPETE spectrum, it is seen that the amide group in ttp-a-PPETE induces a dramatic blue shift of 121 nm. The emission spectrum of ttp-a-PPETE was similarly blue-shifted relative to that of ttp-PPETE. A Stern-Volmer plot of relative emission intensity of ttp-a-PPETE vs. Ni²⁺ quencher shows a modest upward curvature, distinctly lower than that for ttp-PPETE where the emission intensity drops 86% at the same quencher concn. The decreased quenching efficiency of ttp-a-PPETE relative to ttp-PPETE suggests that the emission energy of the conjugated backbone plays an important role in the quenching mechanism.
- ST terpyridine polyphenylacetylene polythiophene conjugated polymer prepn; diethylcarbamoyl terpyridine polythienylene ethynylene prepn coupling polymn; optical absorption blue emittance polythienylene polyphenylacetylene substituent effect; quenching efficiency terpyridine polyphenylacetylene polythienylene nickel quencher
- IT Polymers, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(conjugated; prepn. and photooptical properties of amide-contg. poly(phenylene-ethynylene-alt-thienylene ethynylene) blue-light-emitting conjugated polymer and quenching by metal ion towards sensor use)
- IT Polymerization
(coupling; prepn. and photooptical properties of amide-contg. poly(phenylene-ethynylene-alt-thienylene ethynylene) blue-light-emitting conjugated polymer and quenching by metal ion towards sensor use)
- IT Polyacetylenes, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polythiophene-; prepn. and photooptical properties of amide-contg. poly(phenylene-ethynylene-alt-thienylene ethynylene) blue-light-emitting conjugated polymer and quenching by metal ion towards sensor use)
- IT Absorption spectra
Coupling reaction
Emission spectra
Fluorescence quenching
Luminescence quenching
Optical absorption
Substituent effects
(prepn. and photooptical properties of amide-contg.

poly(phenylene-ethynylene-alt-thienylene ethynylene)
blue-light-emitting conjugated polymer and quenching by metal ion
towards sensor use)

IT 7681-65-4, Copper iodide (CuI) 14221-01-3, Tetrakis(triphenylphosphine)p
alladium
RL: CAT (Catalyst use); USES (Uses)
(coupling polymn. catalyst; prepn. and photooptical properties of
amide-contg. poly(phenylene-ethynylene-alt-thienylene ethynylene)
blue-light-emitting conjugated polymer and quenching by metal ion
towards sensor use)

IT 14701-22-5, Nickel(2+), uses
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical
process); PYP (Physical process); PROC (Process); USES (Uses)
(prepn. and photooptical properties of amide-contg.
poly(phenylene-ethynylene-alt-thienylene ethynylene)
blue-light-emitting conjugated polymer and quenching by metal ion
towards sensor use)

IT 398507-96-5 400051-28-7
RL: PRP (Properties)
(prepn. and photooptical properties of amide-contg.
poly(phenylene-ethynylene-alt-thienylene ethynylene) blue-light
-emitting conjugated polymer and quenching by metal ion
towards sensor use)

IT 458568-93-9P, 2,5-Diethynyl-1,4-bis(N,N-diethylcarbamoyl)benzene-
4'-[4-[2-(2,5-dibromothiophen-3-yl)vinyl]phenyl]-[2,2':6',2'']terpyridine
copolymer 460312-72-5P
RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)
(prepn. and photooptical properties of amide-contg.
poly(phenylene-ethynylene-alt-thienylene ethynylene) blue-light
-emitting conjugated polymer and quenching by metal ion
towards sensor use)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

(1) Chen, L; Proceedings of the National Academy of Sciences 1999, V96, P12287
HCAPLUS

(2) Heck, R; Palladium Reagents in Organic Syntheses 1990

(3) Jegou, C; Macromolecules 2001, V34, P7926

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IT 398507-96-5
RL: PRP (Properties)
(prepn. and photooptical properties of amide-contg.
poly(phenylene-ethynylene-alt-thienylene ethynylene) blue-light
-emitting conjugated polymer and quenching by metal ion
towards sensor use)

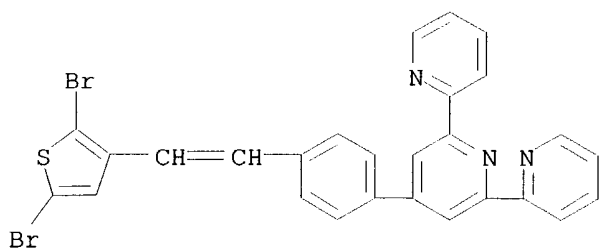
RN 398507-96-5 HCAPLUS

CN 2,2':6',2''-Terpyridine, 4'-[4-[2-(2,5-dibromo-3-thienyl)ethenyl]phenyl]-,
polymer with 1,4-bis(dodecyloxy)-2,5-diethynylbenzene (9CI) (CA INDEX
NAME)

CM 1

CRN 398507-93-2

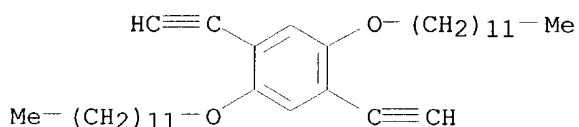
CMF C27 H17 Br2 N3 S



CM 2

CRN 152270-00-3

CMF C34 H54 O2



IT **458568-93-9P**, 2,5-Diethynyl-1,4-bis(N,N-dioctylcarbamoyl)benzene-4'-[4-[2-(2,5-dibromothiophen-3-yl)vinyl]phenyl]-[2,2':6',2'']terpyridine copolymer

RL: PRP (Properties); **SPN (Synthetic preparation)**; **PREP**

(Preparation)

(prepn. and photooptical properties of amide-contg. poly(phenylene-ethynylene-alt-thienylene ethynylene) blue-light -emitting conjugated polymer and quenching by metal ion towards sensor use)

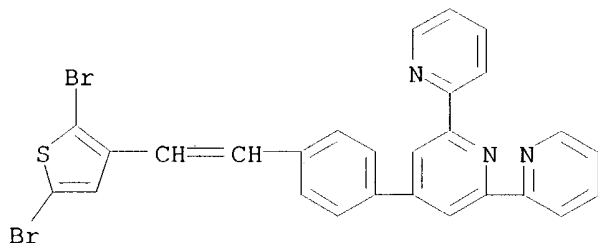
RN 458568-93-9 HCAPLUS

CN 1,4-Benzenedicarboxamide, 2,5-diethynyl-N,N,N',N'-tetraoctyl-, polymer with 4'-[4-[2-(2,5-dibromo-3-thienyl)ethenyl]phenyl]-2,2':6',2''-terpyridine (9CI) (CA INDEX NAME)

CM 1

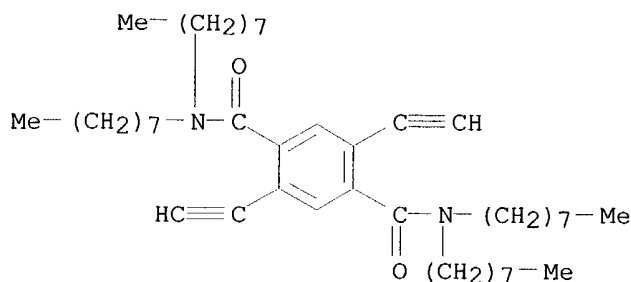
CRN 398507-93-2

CMF C27 H17 Br2 N3 S



CM 2

CRN 169693-97-4
CMF C44 H72 N2 O2



- L26 ANSWER 3 OF 38 HCAPLUS COPYRIGHT 2002 ACS
 AN 2002:540528 HCAPLUS
 DN 137:248067
 TI Highly luminescent diyne (-C.ident.C-C.ident.C-) containing hybrid poly(phenyleneethynylene)/poly(p-phenylenevinylene) polymer: synthesis and characterization
 AU Egbe, Daniel Ayuk Mbi; Birckner, Eckhard; Klemm, Elisabeth
 CS Institut für Organische Chemie und Makromolekulare Chemie der Friedrich-Schiller-Universität Jena, Jena, D-07743, Germany
 SO Journal of Polymer Science, Part A: Polymer Chemistry (2002), 40(15), 2670-2679
 CODEN: JPACEC; ISSN: 0887-624X
 PB John Wiley & Sons, Inc.
 DT Journal
 LA English
 CC 35-7 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 36, 73
 AB Luminophoric dialdehyde 1,4-bis[4-formylphenylethynyl-(2,5-di(octadecyloxy)phenyl)-buta-1,3-diyne] (I) was used to prep. diyne-contg. hybrid poly(phenylene-ethynylene)/poly(p-phenylene-vinylene)s. Poly[1,4-phenylene-ethynylene-1,4-(2,5-di(octadecyloxy)phenylene-butadi-1,3-ynylene-1,4-(2,5-di(octadecyloxy)phenylene-ethynylene-1,4-phenylene-ethene-1,2-diyl-1,4-(2,5-di(octadecyloxy)phenylene-ethene-1,2-diyl)] (II) was obtained, which has a well-defined structure (-Ph-C.ident.C-Ar-C.ident.C-C.ident.C-Ar-C.ident.C-Ph-CH=CH-Ar-CH=CH-)n, as confirmed by NMR and IR spectroscopy. The highly luminescent II material is thermally stable, sol. in common org. solvents due to octadecyloxy side groups, and can be processed into transparent films. The effect of -C.ident.C-C.ident.C-segments on the photophys. response of II was studied and compared to that of monomers [1,4-bis(4-formylphenylethynyl)-2,5-di(octadecyloxy)benzene] (III) and I and of their resp. polymers, II and IV (III homopolymer). The polymers showed similar photophys. response in dil. CHCl3 soln. as they have an identical chromophore system responsible for absorption (.lambda.a = 448 nm) and emission (.lambda.f = 490 nm). The increased planarization and enhanced rigidity of the conjugated backbone in the solid state at room temp. and in frozen dil. THF soln. at 77 K cause a bathochromic shift in the absorption and emission spectra. The large octadecyloxy side chains obviously limit strong .pi.-.pi. interchain interactions in the solid films, which explains the high fluorescence quantum yield, 35 and 52%, for IV and II, resp. The energetically arduous migration of .pi. electrons through the diyne units requires a higher threshold voltage for the detection of photocond. in II but could possibly limit radiationless deactivation channels of the exciton, which explains the approx. 20%

- fluorescence quantum yield difference between IV and II in the solid state. The electron-withdrawing effect of the triple bonds confer both IV and II with good electron-accepting property (Eox = 1.39 V vs. Ag/AgCl), suitable for use in light-emitting diode devices.
- ST polyphenyleneethynylene polyphenylenevinylene monomer copolymer prepn chain structure; polyacetylene polyphenylenevinylene luminescence fluorescence photocond; conjugated polymer triple bond effect electron acceptor photoluminescence
- IT NMR (nuclear magnetic resonance)
(C-13; prepn. of highly luminescent diyne-contg. polyacetylene/poly(p-phenylenevinylene) and role of triple bond segment on chain rigidity and acceptor levels on photocond.)
- IT Polymers, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(conjugated; prepn. of highly luminescent diyne-contg. polyacetylene/poly(p-phenylenevinylene) and role of triple bond segment on chain rigidity and acceptor levels on photocond.)
- IT Polyacetylenes, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyphenylenevinylene-; prepn. of highly luminescent diyne-contg. polyacetylene/poly(p-phenylenevinylene) and role of triple bond segment on chain rigidity and acceptor levels on photocond.)
- IT Poly(arylenealkenylenes)
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyphenylenevinylenes, polyacetylene-; prepn. of highly luminescent diyne-contg. polyacetylene/poly(p-phenylenevinylene) and role of triple bond segment on chain rigidity and acceptor levels on photocond.)
- IT Acceptor levels
Exciton
Fluorescence
Fluorescence decay
Luminescence
Optical absorption
Photoconductivity
(prepn. of highly luminescent diyne-contg. polyacetylene/poly(p-phenylenevinylene) and role of triple bond segment on chain rigidity and acceptor levels on photocond.)
- IT Polymer chains
(rigid, conjugated segment; prepn. of highly luminescent diyne-contg. polyacetylene/poly(p-phenylenevinylene) and role of triple bond segment on chain rigidity and acceptor levels on photocond.)
- IT 379710-93-7 379711-04-3 379711-05-4
RL: PRP (Properties)
(prepn. of highly **luminescent** diyne-contg. polyacetylene/poly(p-phenylenevinylene) and role of triple bond segment on chain rigidity and acceptor levels on photocond.)
- IT 379710-96-0
RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
(prepn. of highly luminescent diyne-contg. polyacetylene/poly(p-phenylenevinylene) and role of triple bond segment on chain rigidity and acceptor levels on photocond.)
- IT **460983-62-4P**, 1,4-Bis[4-formylphenylethynyl-(2,5-di-octadecyloxyphenyl)-buta-1,3-diyne]-2,5-di-octadecyloxy-p-xylylene-bis(diethyl)phosphonate copolymer **460983-64-6P**, 1,4-Bis[4-formylphenylethynyl-(2,5-di-octadecyloxyphenyl)-buta-1,3-diyne]-2,5-di-octadecyloxy-p-xylylene-bis(diethyl)phosphonate copolymer, SRU
RL: PRP (Properties); SPN (**Synthetic preparation**); PREP (**Preparation**)
(prepn. of highly **luminescent** diyne-contg. polyacetylene/poly(p-phenylenevinylene) and role of triple bond segment

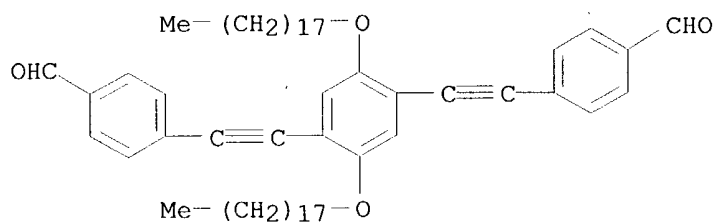
on chain rigidity and acceptor levels on photocond.)

RE.CNT 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD
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- IT 379711-04-3 379711-05-4
RL: PRP (Properties)
(prepn. of highly **luminescent** diyne-contg.
polyacetylene/poly(p-phenylenevinylene) and role of triple bond segment
on chain rigidity and acceptor levels on photocond.)
- RN 379711-04-3 HCAPLUS
CN Phosphonic acid, [[2,5-bis(octadecyloxy)-1,4-phenylene]bis(methylene)]bis-
, tetraethyl ester, polymer with 4,4'-[[2,5-bis(octadecyloxy)-1,4-
phenylene]di-2,1-ethynediyl]bis(benzaldehyde) (9CI) (CA INDEX NAME)

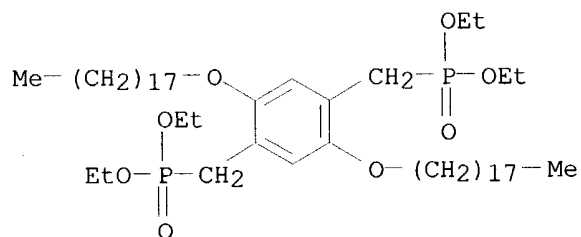
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CMF C60 H86 O4



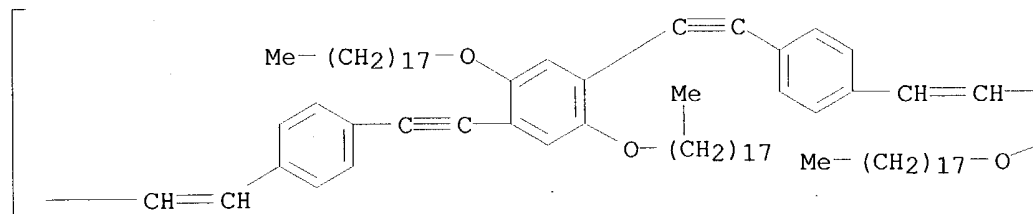
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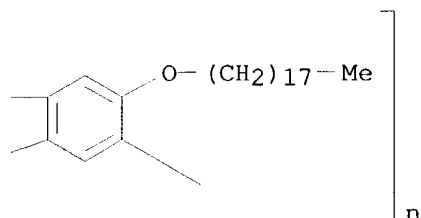


RN 379711-05-4 HCAPLUS
CN Poly[[2,5-bis(octadecyloxy)-1,4-phenylene]-1,2-ethenediyl-1,4-phenylene-1,2-ethynediyl[2,5-bis(octadecyloxy)-1,4-phenylene]-1,2-ethynediyl-1,4-phenylene-1,2-ethenediyl] (9CI) (CA INDEX NAME)

PAGE 1-A



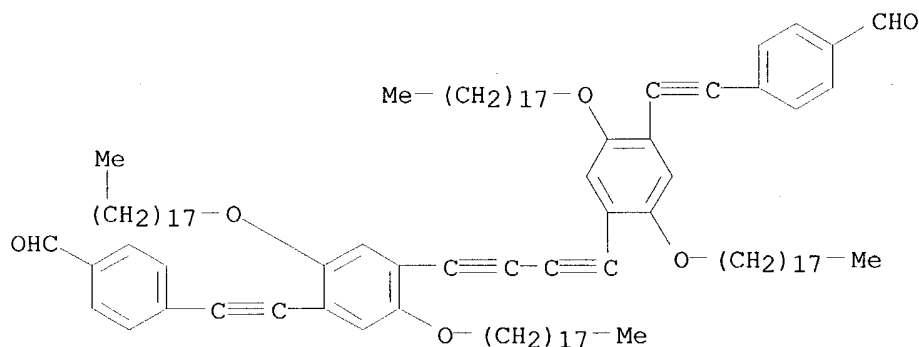
PAGE 1-B



IT **460983-62-4P**, 1,4-Bis[4-formylphenylethynyl-(2,5-dioctadecyloxyphenyl)-buta-1,3-diyne]-2,5-dioctadecyloxy-p-xylylene-bis(diethyl)phosphonate copolymer **460983-64-6P**, 1,4-Bis[4-formylphenylethynyl-(2,5-dioctadecyloxyphenyl)-buta-1,3-diyne]-2,5-dioctadecyloxy-p-xylylene-bis(diethyl)phosphonate copolymer, SRU
 RL: PRP (Properties); SPN (Synthetic preparation); PREP
 (Preparation)
 (prepn. of highly **luminescent** diyne-contg. polyacetylene/poly(p-phenylenevinylene) and role of triple bond segment on chain rigidity and acceptor levels on photocond.)
 RN 460983-62-4 HCAPLUS
 CN Phosphonic acid, [[2,5-bis(octadecyloxy)-1,4-phenylene]bis(methylene)]bis-, tetraethyl ester, polymer with 4,4'-[1,3-butadiyne-1,4-diylbis[[2,5-bis(octadecyloxy)-4,1-phenylene]-2,1-ethynediyl]]bis[benzaldehyde] (9CI)
 (CA INDEX NAME)

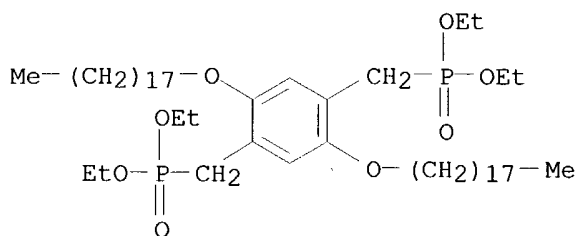
CM 1

CRN 379710-96-0
 CMF C106 H162 O6



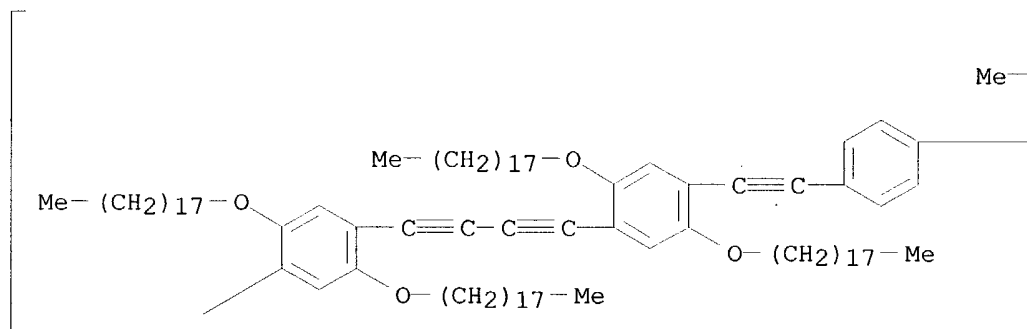
CM 2

CRN 379710-91-5
 CMF C52 H100 O8 P2

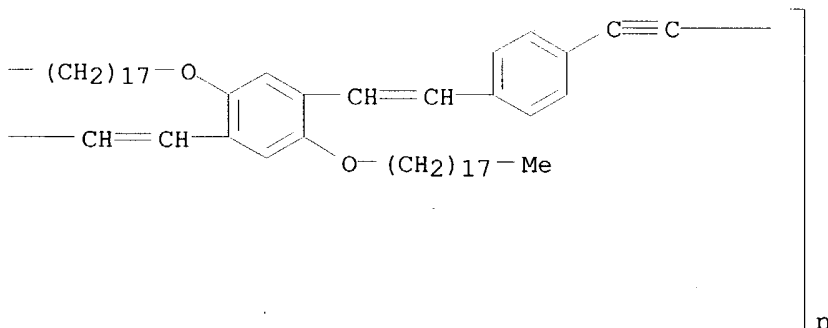


RN 460983-64-6 HCAPLUS
 CN Poly[[2,5-bis(octadecyloxy)-1,4-phenylene]-1,3-butadiyne-1,4-diyl[2,5-bis(octadecyloxy)-1,4-phenylene]-1,2-ethynediyl-1,4-phenylene-1,2-ethenediyl[2,5-bis(octadecyloxy)-1,4-phenylene]-1,2-ethenediyl-1,4-phenylene-1,2-ethynediyl] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



L26 ANSWER 4 OF 38 HCAPLUS COPYRIGHT 2002 ACS
 AN 2002:497546 HCAPLUS
 DN 137:217616
 TI Luminescence property of anthracene-capped poly(p-phenyleneethynylene)
 AU Niu, Jung-Feng; Yang, Mu-Jie; Sun, Jing-Zhi

CS Dept. of Polymer Science and Eng., Zhejiang Univ., Hangzhou, 310027, Peop.
Rep. China

SO Huaxue Xuebao (2002), 60(6), 1139-1143
CODEN: HHHPA4; ISSN: 0567-7351

PB Kexue Chubanshe

DT Journal

LA Chinese

CC 37-5 (Plastics Manufacture and Processing)
Section cross-reference(s): 35, 73, 76

AB The synthesis and luminescent properties of a new, soln.-processable
conjugated polymer (P2) which was end-capped by anthracene were reported.
The absorption, emission and electroluminescence (EL) spectra have been
investigated resp. The end-capped group of anthracene can obviously
influence the energy band gap of the corresponding polymer (P1). The
results were further confirmed by spectroscopic comparison with the model
comps. EL in the red region of the spectrum with a max. at 600 nm was
obsd. from the polymer film sandwiched between indium-tin-oxide and Al
electrodes.

ST anthracene capped polyphenyleneethynylene electroluminescence

IT Band structure
Electrooptical materials
Fluorescence
Luminescence, electroluminescence
Polymerization
(prepn. and luminescence property of anthracene-capped
poly(p-phenyleneethynylene))

IT Polyacetylenes, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and luminescence property of anthracene-capped
poly(p-phenyleneethynylene))

IT 10075-85-1P 278175-06-7P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(model compd.; prepn. of model comps. for anthracene-capped
poly(p-phenyleneethynylene))

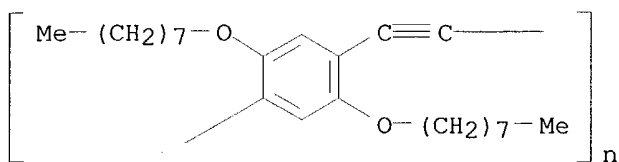
IT 1564-64-3DP, 9-Bromoanthracene, reaction products with
polyphenyleneethynylene 153033-25-1P 340323-25-3DP,
reaction products with bromoanthracene 340323-25-3P
454703-10-7P
RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)
(prepn. and luminescence property of anthracene-capped
poly(p-phenyleneethynylene))

IT 523-27-3, 9,10-Dibromoanthracene 536-74-3, Ethynylbenzene
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of model comps. for anthracene-capped poly(p-
phenyleneethynylene))

IT 153033-25-1P 340323-25-3DP, reaction products with
bromoanthracene 340323-25-3P 454703-10-7P
RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)
(prepn. and luminescence property of anthracene-capped
poly(p-phenyleneethynylene))

RN 153033-25-1 HCAPLUS

CN Poly[[2,5-bis(octyloxy)-1,4-phenylene]-1,2-ethynediyl] (9CI) (CA INDEX
NAME)

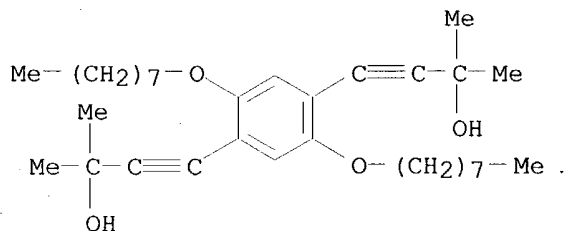


RN 340323-25-3 HCAPLUS
 CN 3-Butyn-2-ol, 4,4'-[2,5-bis(octyloxy)-1,4-phenylene]bis[2-methyl-, polymer
 with 1,4-diiodo-2,5-bis(octyloxy)benzene (9CI) (CA INDEX NAME)

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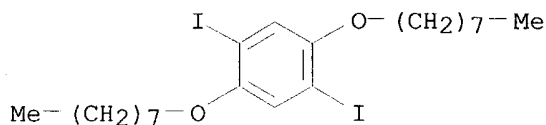
CMF C32 H50 O4



CM 2

CRN 145483-68-7

CMF C22 H36 I2 O2

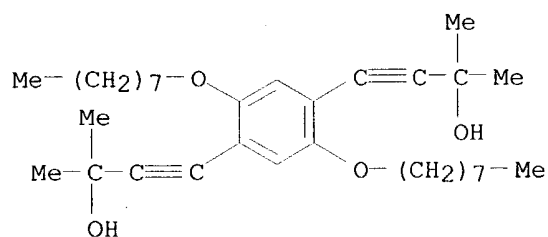


RN 340323-25-3 HCAPLUS
 CN 3-Butyn-2-ol, 4,4'-[2,5-bis(octyloxy)-1,4-phenylene]bis[2-methyl-, polymer
 with 1,4-diiodo-2,5-bis(octyloxy)benzene (9CI) (CA INDEX NAME)

CM 1

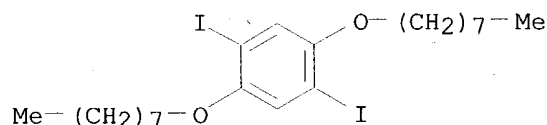
CRN 340323-24-2

CMF C32 H50 O4



CM 2

CRN 145483-68-7
CMF C22 H36 I2 O2



RN 454703-10-7 HCAPLUS
CN Poly[[2,5-bis(octyloxy)-1,4-phenylene]-1,2-ethynediyl],
.alpha.-(9-anthracenylethynyl)-.omega.-9-anthracenyl- (9CI) (CA INDEX
NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L26 ANSWER 5 OF 38 HCAPLUS COPYRIGHT 2002 ACS
AN 2002:446738 HCAPLUS
DN 137:155232
TI Synthesis of Luminescent Rod-Coil Block Copolymers Using Atom Transfer
Radical Polymerization
AU Tsolakakis, P. K.; Kallitsis, J. K.; Godt, A.
CS Department of Chemistry, University of Patras, Patras, GR-265 00, Greece
SO Macromolecules (2002), 35(15), 5758-5762
CODEN: MAMOBX; ISSN: 0024-9297
PB American Chemical Society
DT Journal
LA English
CC 35-4 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 37, 38, 73
AB The synthesis luminescent rod-coil diblock and coil-rod-coil triblock
copolymers contg. oligo(p-phenyleneethynylene) as the rodlike block and
polystyrene as the coil was achieved via atom transfer radical polymn.
using oligo(p-phenyleneethynylene)s as the initiators substituted with
2-halogenopropionyloxy or 4-(bromomethyl)benzyloxy groups. The use of
these macroinitiators for polymn. of Et acrylate and styrene is also
presented. These polymers were also characterized via SEC, NMR, and
optical techniques.
ST luminescent rod coil block polyphenylenevinylene copolymer; atom transfer
radical polymn luminescent rod coil block copolymer; macroinitiator
oligophenyleneethynylene polymn ethyl acrylate styrene; catalyst
oligophenyleneethynylene polymn ethyl acrylate styrene
IT Polymerization
Polymerization catalysts

- (atom transfer, radical; synthesis of luminescent rod-coil block copolymers via atom transfer radical polymn. using oligo(p-phenyleneethynylenes)-based macroinitiators)
- IT Poly(arylenealkenylenes)
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (polystyrene-, block, triblock; synthesis of luminescent rod-coil block copolymers via atom transfer radical polymn. using oligo(p-phenyleneethynylenes)-based macroinitiators)
- IT Fluorescence
 Luminescent substances
 Optical absorption
 (synthesis of luminescent rod-coil block copolymers via atom transfer radical polymn. using oligo(p-phenyleneethynylenes)-based macroinitiators)
- IT 445476-02-8 445476-03-9 445476-04-0 445476-05-1 445476-06-2
 RL: CAT (Catalyst use); USES (Uses)
 (macroinitiator; synthesis of luminescent rod-coil block copolymers via atom transfer radical polymn. using oligo(p-phenyleneethynylenes)-based macroinitiators)
- IT 25066-97-1P, Ethyl acrylate-styrene copolymer
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
 (macroinitiators for prepn. of; synthesis of luminescent rod-coil block copolymers via atom transfer radical polymn. using oligo(p-phenyleneethynylenes)-based macroinitiators)
- IT 75-36-5, Acetyl chloride 623-24-5, .alpha.,.alpha.'-Dibromo-p-xylene
 7148-74-5, 2-Bromopropionyl chloride 7623-09-8, 2-Chloropropionyl chloride 312624-87-6
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (starting material for prepn. of macroinitiators; synthesis of luminescent rod-coil block copolymers via atom transfer radical polymn. using oligo(p-phenyleneethynylenes)-based macroinitiators)
- IT 3030-47-5, N,N,N',N', N''-Pentamethyldiethylenetriamine 11129-27-4, Copper bromide 37275-48-2, Bipyridine
 RL: CAT (Catalyst use); USES (Uses)
 (synthesis of luminescent rod-coil block copolymers via atom transfer radical polymn. using oligo(p-phenyleneethynylenes)-based macroinitiators)
- IT 445476-07-3P 445476-08-4P 445476-09-5P
 445476-10-8P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (triblock; synthesis of luminescent rod-coil block copolymers via atom transfer radical polymn. using oligo(p-phenyleneethynylenes)-based macroinitiators)

RE.CNT 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD

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IT 445476-07-3P 445476-08-4P 445476-09-5P

445476-10-8P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(triblock; synthesis of luminescent rod-coil block copolymers via atom transfer radical polymn. using oligo(p-phenyleneethynylenes)-based macroinitiators)

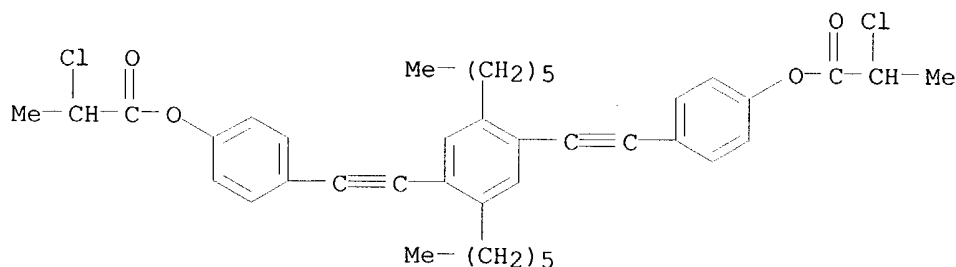
RN 445476-07-3 HCAPLUS

CN Propanoic acid, 2-chloro-, (2,5-dihexyl-1,4-phenylene)bis(2,1-ethynediyl-4,1-phenylene) ester, polymer with ethenylbenzene, block (9CI) (CA INDEX NAME)

CM 1

CRN 445476-02-8

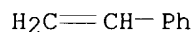
CMF C40 H44 Cl2 O4



CM 2

CRN 100-42-5

CMF C8 H8



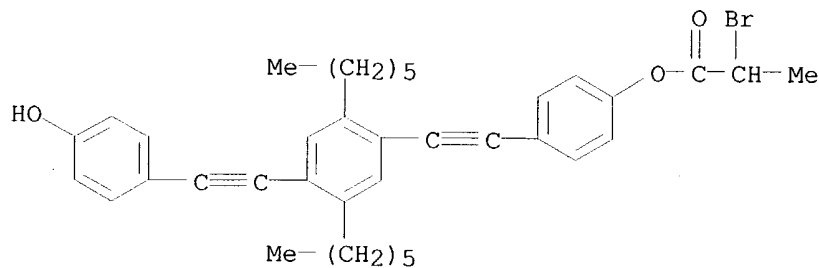
RN 445476-08-4 HCAPLUS

CN Propanoic acid, 2-bromo-, 4-[[2,5-dihexyl-4-[(4-hydroxyphenyl)ethynyl]phenyl]ethynyl]phenyl ester, polymer with ethenylbenzene, block (9CI) (CA INDEX NAME)

CM 1

CRN 445476-03-9

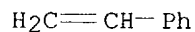
CMF C37 H41 Br O3



CM 2

CRN 100-42-5

CMF C8 H8



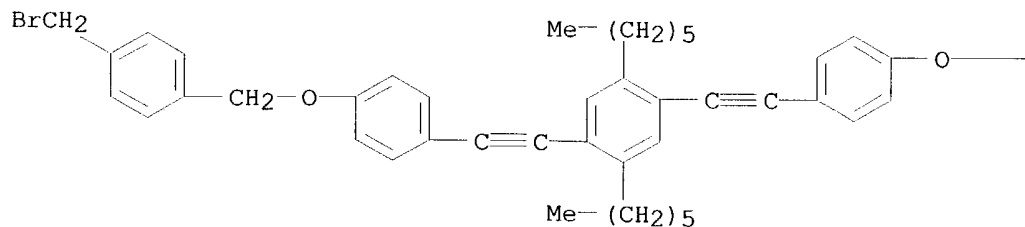
RN 445476-09-5 HCAPLUS

CN Benzene, 1,4-bis[[4-[[4-(bromomethyl)phenyl]methoxy]phenyl]ethynyl]-2,5-dihexyl-, polymer with ethenylbenzene, block (9CI) (CA INDEX NAME)

CM 1

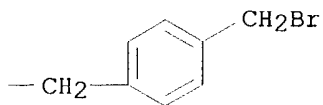
CRN 445476-05-1

CMF C50 H52 Br2 O2



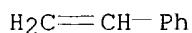
PAGE 1-A

PAGE 1-B



CM 2

CRN 100-42-5
CMF C8 H8

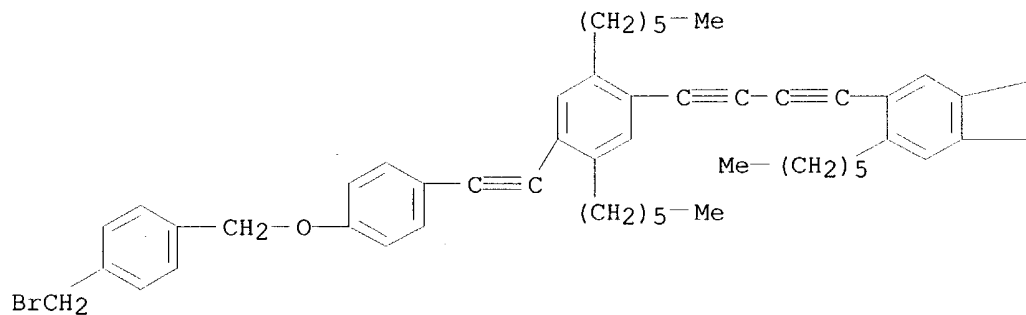


RN 445476-10-8 HCAPLUS
CN Benzene, 1,1'-(1,3-butadiyne-1,4-diyl)bis[4-[[4-[[4-(bromomethyl)phenyl]methoxy]phenyl]ethynyl]-2,5-dihexyl-, polymer with ethenylbenzene, block (9CI) (CA INDEX NAME)

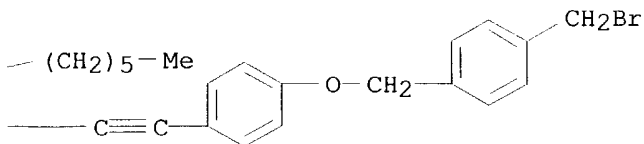
CM 1

CRN 445476-06-2
CMF C72 H80 Br2 O2

PAGE 1-A

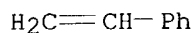


PAGE 1-B



CM 2

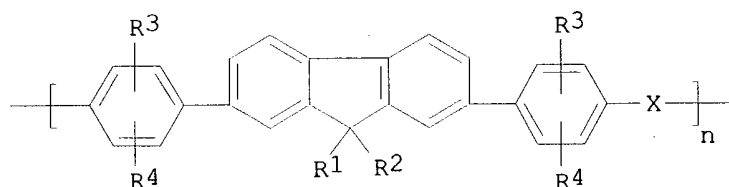
CRN 100-42-5
CMF C8 H8



L26 ANSWER 6 OF 38 HCAPLUS COPYRIGHT 2002 ACS
 AN 2002:332596 HCAPLUS
 DN 136:348077
 TI Fluorene based polymers and light emitting diodes fabricated with the same as light emitting material
 IN Cho, Hyun Nam; Kim, Young Chul; Hong, Jae-Min; Kim, Jong-Bok; Moon, Doo Kyung; Park, Young Sei; Nam, Ho Seong
 PA Korea Institute of Science and Technology (KIST), S. Korea
 SO U.S. Pat. Appl. Publ., 21 pp.
 CODEN: USXXCO
 DT Patent
 LA English
 IC ICM H05B033-12
 ICS C08G061-00
 NCL 428690000
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 38, 76
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002051895	A1	20020502	US 2001-947208	20010904
	JP 2002161130	A2	20020604	JP 2001-269354	20010905
	JP 3314177	B2	20020812		
PRAI	KR 2000-52400	A	20000905		

GI



I

AB Fluorene-based polymers are described by the general formula I (R1-4 = independently selected H, C1-22 aliph. or alicyclic alkyl or alkoxy groups, C6-18 aryl or aryloxy groups, cyano, cyanoethyl, or alkyl or aryl derivs. of silicon, tin or germanium; X = diacetylene, diethynyl aryl, or divinylaryl groups or a single bond; and n .gtoreq. 1). Electroluminescent devices with light-emitting layers employing the polymers are also described. The luminescent layer may comprise a polymer blend.

ST fluorene polymer light emitting diode

IT Luminescent substances
 (electroluminescent; fluorene-based polymers and light-emitting diodes using them)

IT Acrylic polymers, uses
 Aminoplasts
 Epoxy resins, uses
 Phenolic resins, uses
 Polyamides, uses

Polycarbonates, uses
 Polyesters, uses
 Polyimides, uses
 Polysiloxanes, uses
 Polysulfones, uses
 Polyureas
 Polyurethanes, uses
 Polyvinyl butyrals
 RL: DEV (Device component use); POF (Polymer in formulation); USES (Uses)
 (fluorene-based polymers and light-emitting diodes using them)

IT Electroluminescent devices
 (org.; fluorene-based polymers and light-emitting diodes using them)

IT Acetals
 RL: DEV (Device component use); POF (Polymer in formulation); USES (Uses)
 (polymers; fluorene-based polymers and light-emitting diodes using them)

IT 9002-86-2, Polyvinylchloride 9002-88-4, Polyethylene 9002-89-5,
 Polyvinylalcohol 9003-07-0, Polypropylene 9003-08-1, Melamine resin
 9003-20-7, Polyvinylacetate 9003-39-8, Polyvinylpyrrolidone 9003-53-6,
 Polystyrene 9003-56-9, Acrylonitrile-butadiene-styrene copolymer
 9011-14-7, Polymethylmethacrylate 24968-12-5 24980-41-4,
 Polycaprolactone 24981-14-4, Polyvinylfluoride 25014-41-9,
 Polyacrylonitrile 25038-59-9, Polyethyleneterephthalate, uses
 25067-59-8, Polyvinylcarbazole 25248-42-4, Poly[oxy(1-oxo-1,6-
 hexanedyl)] 26062-94-2, Polybutyleneterephthalate 26336-38-9,
 Polyvinylamine
 RL: DEV (Device component use); POF (Polymer in formulation); USES (Uses)
 (fluorene-based polymers and light-emitting diodes using them)

IT 350489-00-8P 419568-55-1P 419568-56-2P
 419568-57-3P 419568-58-4P 419568-59-5P
 419568-60-8P 419568-61-9P 419568-62-0P
 419568-63-1P
 RL: DEV (Device component use); SPN (Synthetic preparation);
 PREP (Preparation); USES (Uses)
 (fluorene-based polymers and light-emitting diodes using them)

IT 86-73-7, Fluorene 98-80-6, Benzene boronic acid 107-13-1,
 Acrylonitrile, reactions 111-25-1, Hexyl bromide 1066-54-2,
 Trimethylsilyl acetylene 7553-56-2, Iodine, reactions 7726-95-6,
 Bromine, reactions 189367-54-2 286438-45-7 419568-36-8 419568-54-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (fluorene-based polymers and light-emitting diodes using them)

IT 2470-83-9P 350488-99-2P 419568-23-3P 419568-25-5P 419568-27-7P
 419568-29-9P 419568-30-2P 419568-31-3P 419568-32-4P 419568-33-5P
 419568-34-6P 419568-38-0P 419568-40-4P 419568-42-6P 419568-44-8P
 419568-45-9P 419568-47-1P 419568-49-3P 419568-50-6P 419568-51-7P
 419568-52-8P 419568-53-9P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (fluorene-based polymers and light-emitting diodes using them)

IT 419568-64-2P
 RL: DEV (Device component use); SPN (Synthetic preparation); PREP
 (Preparation); USES (Uses)
 (mvfluorene-based polymers and light-emitting diodes using them)

IT 350489-00-8P 419568-55-1P 419568-56-2P
 419568-57-3P 419568-58-4P 419568-59-5P
 419568-60-8P 419568-61-9P 419568-62-0P
 RL: DEV (Device component use); SPN (Synthetic preparation);
 PREP (Preparation); USES (Uses)
 (fluorene-based polymers and light-emitting diodes using them)

using them)

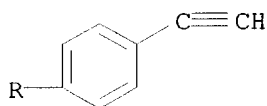
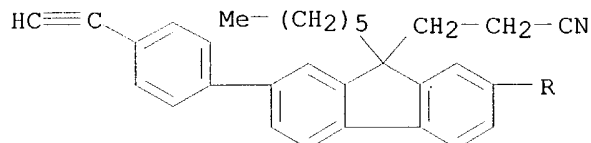
RN 350489-00-8 HCAPLUS

CN 9H-Fluorene-9-propanenitrile, 2,7-bis(4-ethynylphenyl)-9-hexyl-, polymer with 2,7-diethynyl-9,9-dihexyl-9H-fluorene (9CI) (CA INDEX NAME)

CM 1

CRN 350488-99-2

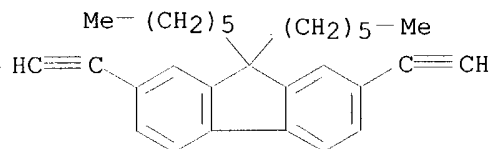
CMF C38 H33 N



CM 2

CRN 220625-90-1

CMF C29 H34



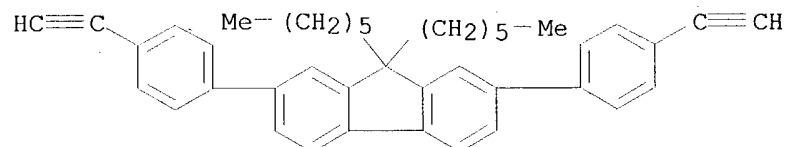
RN 419568-55-1 HCAPLUS

CN 9H-Fluorene, 2,7-bis(4-ethynylphenyl)-9,9-dihexyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 419568-29-9

CMF C41 H42



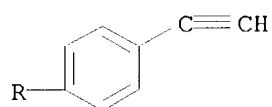
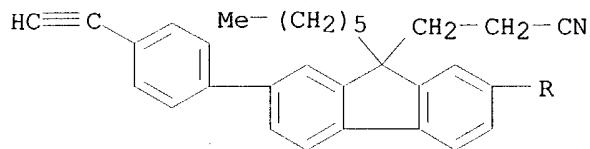
RN 419568-56-2 HCAPLUS

CN 9H-Fluorene-9-propanenitrile, 2,7-bis(4-ethynylphenyl)-9-hexyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 350488-99-2

CMF C38 H33 N



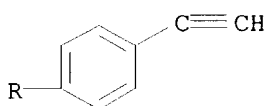
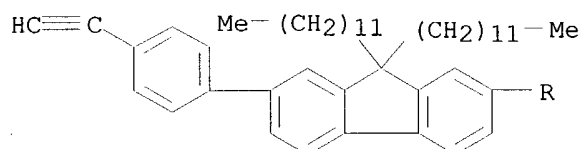
RN 419568-57-3 HCAPLUS

CN 9H-Fluorene, 9,9-didodecyl-2,7-bis(4-ethynylphenyl)-, homopolymer (9CI)
(CA INDEX NAME)

CM 1

CRN 419568-33-5

CMF C53 H66



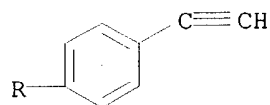
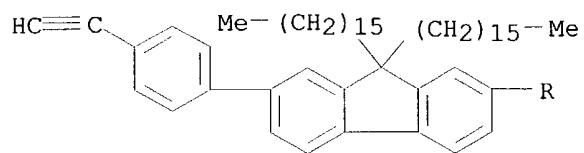
RN 419568-58-4 HCAPLUS

CN 9H-Fluorene, 2,7-bis(4-ethynylphenyl)-9,9-dihexadecyl-, homopolymer (9CI)
(CA INDEX NAME)

CM 1

CRN 419568-42-6

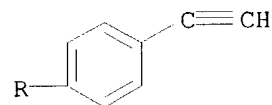
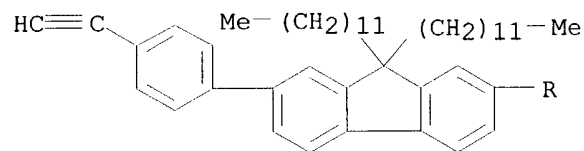
CMF C61 H82



RN 419568-59-5 HCAPLUS
 CN 9H-Fluorene-9-propanenitrile, 2,7-bis(4-ethynylphenyl)-9-hexyl-, polymer with 9,9-didodecyl-2,7-bis(4-ethynylphenyl)-9H-fluorene (9CI) (CA INDEX NAME)

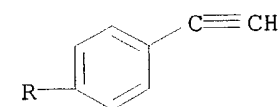
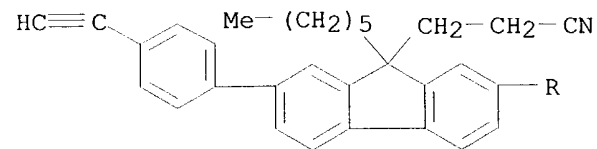
CM 1

CRN 419568-33-5
 CMF C53 H66



CM 2

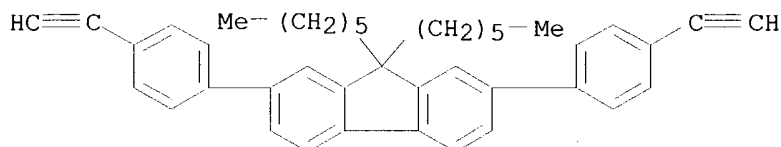
CRN 350488-99-2
 CMF C38 H33 N



RN 419568-60-8 HCAPLUS
 CN 9H-Fluorene, 2,7-bis(4-ethynylphenyl)-9,9-dihexyl-, polymer with
 2,7-diethynyl-9,9-dihexyl-9H-fluorene (9CI) (CA INDEX NAME)

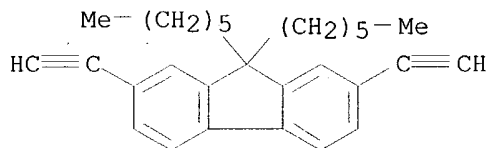
CM 1

CRN 419568-29-9
 CMF C41 H42



CM 2

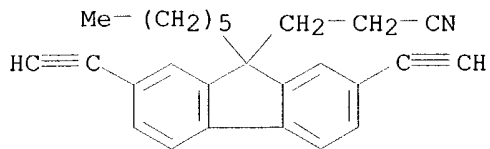
CRN 220625-90-1
 CMF C29 H34



RN 419568-61-9 HCAPLUS
 CN 9H-Fluorene-9-propanenitrile, 2,7-diethynyl-9-hexyl-, homopolymer (9CI)
 (CA INDEX NAME)

CM 1

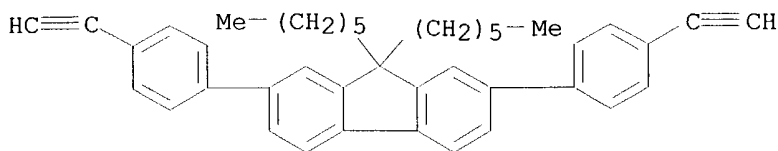
CRN 419568-52-8
 CMF C26 H25 N



RN 419568-62-0 HCAPLUS
 CN 9H-Fluorene, 2,7-bis(4-ethynylphenyl)-9,9-dihexyl-, polymer with
 2,7-dibromo-9,9-dihexyl-9H-fluorene (9CI) (CA INDEX NAME)

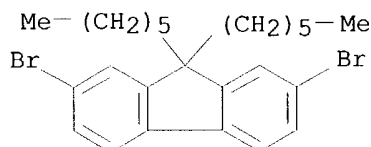
CM 1

CRN 419568-29-9
 CMF C41 H42



CM 2

CRN 189367-54-2
CMF C25 H32 Br2



L26 ANSWER 7 OF 38 HCAPLUS COPYRIGHT 2002 ACS
AN 2002:245660 HCAPLUS
DN 137:186075
TI The electroluminescence characterization of poly(p-phenyleneethynylene)-the .pi.-conjugated backbone interrupted by a butylene unit
AU Niu, Jun-feng; Yang, Mu-jie
CS Department of Polymer Science and Engineering, Zhejiang University, Hangzhou, 310027, Peop. Rep. China
SO Chemical Research in Chinese Universities (2002), 18(1), 88-92
CODEN: CRCUED; ISSN: 1005-9040
PB Higher Education Press
DT Journal
LA English
CC 36-5 (Physical Properties of Synthetic High Polymers)
AB .pi.-Conjugated poly(p-phenyleneethynylene) with the interruption of the conjugation by a butylene unit was synthesized. Its absorption, photoluminescence (PL) and electroluminescence (EL) spectra were investigated, resp. The spectral peaks shifted to the higher energy side with the interruption of the conjugation lengths. The model compd. was synthesized, by which the results were proved. The thermal characteristics of the polymer was detd. by DSC and TGA, indicating that the polymer has a good thermal stability. The EL in the green region of the spectrum with a max. at 500 nm was obsd. from the polymer films sandwiched between indium-tin-oxide and an Al electrode.
ST conjugated polyphenyleneethynylene electroluminescence butylene unit
IT Polyethers, properties
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(polyacetylene-; prepn. and electroluminescence characterization of .pi.-conjugated poly(p-phenyleneethynylene) and its light-emitting devices)
IT Polyacetylenes, properties
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(polyether-; prepn. and electroluminescence characterization of .pi.-conjugated poly(p-phenyleneethynylene) and its light-emitting devices)

- IT Electroluminescent devices
Fluorescence
Glass transition temperature
Luminescence
Luminescence, electroluminescence
Thermal stability
(prepn. and electroluminescence characterization of .pi.-conjugated poly(p-phenyleneethynylene) and its light-emitting devices)
- IT 7429-90-5, Aluminum, uses
RL: DEV (Device component use); USES (Uses)
(ITO-poly(p-phenyleneethynylene) layers; prepn. and electroluminescence characterization of .pi.-conjugated poly(p-phenyleneethynylene) and its light-emitting devices)
- IT 50926-11-9, ITO
RL: DEV (Device component use); USES (Uses)
(aluminum-poly(p-phenyleneethynylene) layers; prepn. and electroluminescence characterization of .pi.-conjugated poly(p-phenyleneethynylene) and its light-emitting devices)
- IT 145483-68-7P, 1,4-Bis(octyloxy)-2,5-diiodobenzene
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(model; prepn. and electroluminescence characterization of .pi.-conjugated poly(p-phenyleneethynylene) and its light-emitting devices)
- IT 152240-80-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(monomer; prepn. and electroluminescence characterization of .pi.-conjugated poly(p-phenyleneethynylene) and its light-emitting devices)
- IT 449165-17-7P
RL: DEV (Device component use); PRP (Properties); **SPN (Synthetic preparation); PREP (Preparation); USES (Uses)**
(prepn. and electroluminescence characterization of .pi.-conjugated poly(p-phenyleneethynylene) and its **light-emitting** devices)
- IT 110-52-1, 1,4-Dibromobutane 536-74-3, Phenylacetylene 540-38-5, p-Iodophenol
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. and electroluminescence characterization of .pi.-conjugated poly(p-phenyleneethynylene) and its light-emitting devices)

RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

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(20) Yi, P; Macromolecules 1998, V31, P6730

IT 449165-17-7P

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(prepn. and electroluminescence characterization of .pi.-conjugated poly(p-phenyleneethynylene) and its light-emitting devices)

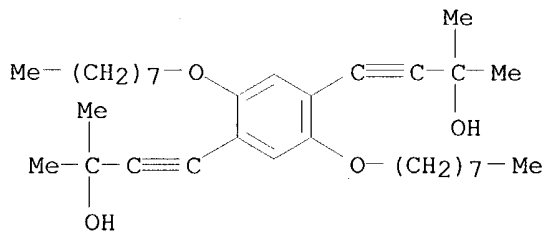
RN 449165-17-7 HCAPLUS

CN 3-Butyn-2-ol, 4,4'-[2,5-bis(octyloxy)-1,4-phenylene]bis[2-methyl-, polymer with 1,1'-[1,4-butanediylbis(oxy)]bis[4-iodobenzene] (9CI) (CA INDEX NAME)

CM 1

CRN 340323-24-2

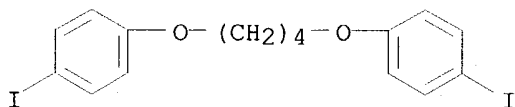
CMF C32 H50 O4



CM 2

CRN 152240-80-7

CMF C16 H16 I2 O2



L26 ANSWER 8 OF 38 HCAPLUS COPYRIGHT 2002 ACS

AN 2002:175677 HCAPLUS

DN 136:355724

TI Preparation of Novel Photoluminescent Oligocarbosilanes by Hydrosilylation

AU Gradwell, Sheila E.; Kepler, Cindy L.

CS Department of Chemistry, Bloomsburg University of Pennsylvania, Bloomsburg, PA, 17815, USA

SO Macromolecules (2002), 35(8), 2871-2872

CODEN: MAMOBX; ISSN: 0024-9297

PB American Chemical Society

DT Journal

LA English

CC 37-3 (Plastics Manufacture and Processing)

AB Light-emitting oligocarbosilanes were prep. by hydrosilylation of (phenylethynyl)dimethylsilane and (phenylethynyl)methylphenylsilane with Karstedt's catalyst.

ST photoluminescent oligocarbosilane prepn hydrosilylation

- phenylethynylsilane
- IT Polycarbosilanes
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyacetylene-; prepn. of light-emitting oligocarbosilanes by hydrosilylation with Karstedt's catalyst)
- IT Polyacetylenes, preparation
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polycarbosilane-; prepn. of light-emitting oligocarbosilanes by hydrosilylation with Karstedt's catalyst)
- IT Fluorescence
Luminescent substances
(prepn. of light-emitting oligocarbosilanes by hydrosilylation with Karstedt's catalyst)
- IT 422312-45-6P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(model compd. for light-emitting oligocarbosilanes obtained by hydrosilylation)
- IT 87290-97-9P 129762-86-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and hydrosilylation of)
- IT **341503-63-7P 341505-12-2P**
RL: PRP (Properties); **SPN (Synthetic preparation)**; TEM
(Technical or engineered material use); **PREP (Preparation)**; USES
(Uses)
(prepn. of **light-emitting** oligocarbosilanes by hydrosilylation with Karstedt's catalyst)
- IT 4440-01-1, Lithium phenylacetylde
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with diemthylchlorosilane and methylphenylchlorosilane)
- IT 1066-35-9, Dimethylchlorosilane 1631-82-9, Methylphenylchlorosilane
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with lithium phenylacetylde)
- IT 2170-06-1, Phenylethynyltrimethylsilane
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with phenyldimethylsilane)

RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

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IT 341503-63-7P 341505-12-2P

RL: PRP (Properties); SPN (Synthetic preparation); TEM
 (Technical or engineered material use); PREP (Preparation); USES
 (Uses)

(prepn. of **light-emitting** oligocarbosilanes by
 hydrolysilylation with Karstedt's catalyst)

RN 341503-63-7 HCAPLUS

CN Silane, dimethyl(phenylethynyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 87290-97-9

CMF C10 H12 Si

$$\text{Me}_2\text{SiH}-\text{C}\equiv\text{C}-\text{Ph}$$

RN 341505-12-2 HCAPLUS

CN Silane, methylphenyl(phenylethynyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 129762-86-3

CMF C15 H14 Si

$$\begin{array}{c} \text{Ph} \\ | \\ \text{Ph}-\text{C}\equiv\text{C}-\text{SiH}-\text{Me} \end{array}$$

L26 ANSWER 9 OF 38 HCAPLUS COPYRIGHT 2002 ACS

AN 2001:893472 HCAPLUS

DN 136:217169

TI Polyphenylene dendrimers with perylene diimide as a luminescent core

AU Herrmann, Andreas; Weil, Tanja; Sinigersky, Veselin; Wiesler, Uwe-Martin;
 Vosch, Tom; Hofkens, Johan; De Schryver, Frans C.; Mullen, Klaus

CS Max-Planck-Institute for Polymer Research, Mainz, 55128, Germany

SO Chemistry--A European Journal (2001), 7(22), 4844-4853

CODEN: CEUJED; ISSN: 0947-6539

PB Wiley-VCH Verlag GmbH

DT Journal

LA English

CC 35-10 (Chemistry of Synthetic High Polymers)

AB A novel synthesis is presented of a fourfold ethynyl-substituted perylene diimide dye (4), which acts as a core mol. for the buildup of polyphenylene dendrimers. Around the luminescent core 4; a first-generation (5), a second-generation (6), and a third-generation (7) polyphenylene dendritic environment consisting of pentaphenylbenzene building blocks are constructed. The dendrimers 5 and 6 are synthesized by an exclusively divergent route, whereas for 7, a combination of divergent and convergent approaches is applied. Absorption and emission spectra of 5-7 in different solvents and in a film have been measured and compared to a nondendronized model compd. (13). In soln., the internal chromophore is scarcely influenced by the dendritic scaffold; however, in the solid state, aggregation of the perylene diimide is prevented very effectively by the four rigid dendrons. Addnl., fluorescence quantum

yields in soln. have been detd. for 5-7 and 13; they decrease as the no. of generation increases.

ST polyphenylene dendrimer perylene diimide luminescent core

IT Fluorescence
UV and visible spectra
(polyphenylene dendrimers with perylene diimide as a luminescent core)

IT Dendritic polymers
Polyphenyls
RL: SPN (Synthetic preparation); PREP (Preparation)
(polyphenylene dendrimers with perylene diimide as a luminescent core)

IT 400724-57-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(core; polyphenylene dendrimers with perylene diimide as a luminescent core)

IT 13194-73-5 89343-06-6, Triisopropylsilylethyne 400724-54-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(in core prepn.; polyphenylene dendrimers with perylene diimide as a luminescent core)

IT 262360-46-3P 400724-55-2P 400724-56-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(in core prepn.; polyphenylene dendrimers with perylene diimide as a luminescent core)

IT 62-53-3, Aniline, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(in model compd. prepn.; polyphenylene dendrimers with perylene diimide as a luminescent core)

IT 400724-58-5P
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(model compd.; polyphenylene dendrimers with perylene diimide as a luminescent core)

IT 352461-62-2P 400724-59-6P 400724-60-9P 402490-77-1P
RL: PRP (Properties); **SPN (Synthetic preparation); PREP (Preparation)**
(polyphenylene dendrimers with perylene diimide as a luminescent core)

IT 479-33-4, Tetraphenylcyclopentadienone 189619-39-4 254886-85-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(polyphenylene dendrimers with perylene diimide as a luminescent core)

RE.CNT 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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IT 352461-62-2P

RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)

(polyphenylene dendrimers with perylene diimide as a
luminescent core)

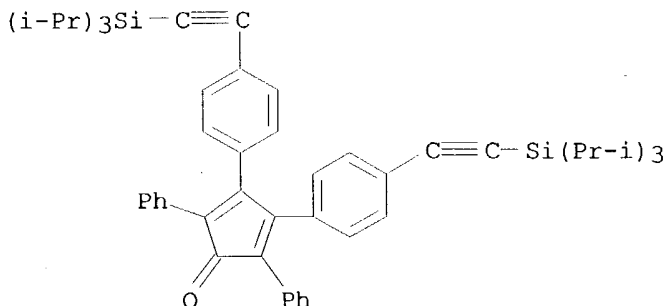
RN 352461-62-2 HCAPLUS

CN 2,4-Cyclopentadien-1-one, 2,5-diphenyl-3,4-bis[4-[[tris(1-methylethyl)silyl]ethynyl]phenyl]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 189619-39-4

CMF C51 H60 O Si2



L26 ANSWER 10 OF 38 HCAPLUS COPYRIGHT 2002 ACS
AN 2001:868018 HCAPLUS

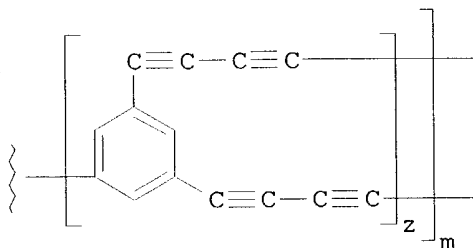
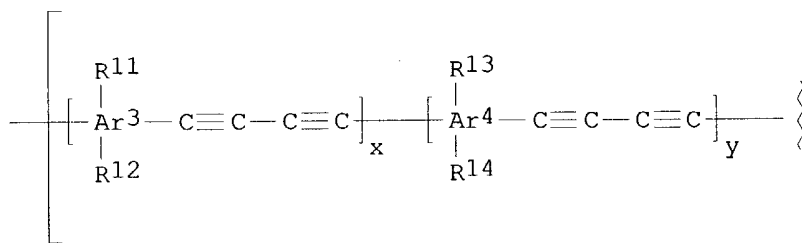
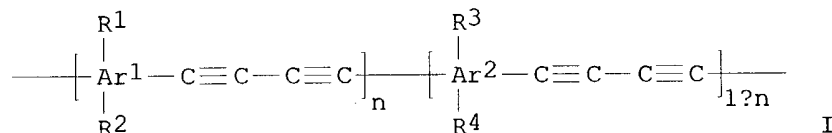
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DN 136:12556
 TI Organic luminescent materials and organic light-emitting devices based on them
 IN Yoshikawa, Kota; Kijima, Masashi; Shirakawa, Hideki; Kinoshita, Ikuo
 PA Fujitsu Limited, Japan
 SO Eur. Pat. Appl., 22 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 IC ICM H05B033-14
 ICS C08F038-00
 CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 25, 38, 76

applicants

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1158839	A2	20011128	EP 2001-303861	20010427
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2002170683	A2	20020614	JP 2001-125359	20010424
	US 2002001734	A1	20020103	US 2001-842228	20010426
PRAI	JP 2000-128364	A	20000427		
	JP 2000-288692	A	20000922		
	JP 2001-125359	A	20010424		
GI					



AB Luminescent materials are described by the general formulas I and II (Ar¹⁻⁴ = arylene groups; R¹⁻⁴, R¹¹⁻¹⁴ = same or different substituents; n, x, y, z = copolymn. ratios; and m = d.p.). Thus, green-emitting, red-emitting and blue-emitting luminescent materials were synthesized and

characterized. Org. light-emitting devices are also described which comprise a lower electrode; a luminescent layer formed on the lower electrode and made of polymer I or II; and an upper electrode formed on the luminescent layer.

ST org polymer luminescent material light emitting device

IT Polymers, uses

RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)

(co-; org. luminescent materials and org. light-emitting devices based on them)

IT Alkali metals, uses

Alkaline earth metals

RL: DEV (Device component use); USES (Uses)

(electrode; org. luminous materials and org. light-emitting devices contg.)

IT Electroluminescent devices

(org. luminous materials and org. light-emitting devices based on them)

IT Luminescent substances

(org. luminous materials prepd. using)

IT **121265-60-9P 375395-26-9P**

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; PROC (Process); USES (Uses)

(blue-emitting; org. luminous materials and org. light-emitting devices based on them)

IT **227329-08-0P**

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; PROC (Process); USES (Uses)

(green-emitting; org. luminous materials and org. light-emitting devices based on them)

IT 92-86-4, 4,4'-Dibromobiphenyl 1066-54-2, Trimethylsilylacetylene 7567-63-7, 1,3,5-Triethynylbenzene 27342-88-7, Dodecanol 50855-13-5, Thiophenecarboxylic acid

RL: RCT (Reactant); RACT (Reactant or reagent)

(org. luminous materials prepd. using)

IT 7311-70-8P 29619-44-1P, 4,4'-Bis(trimethylsilylethynyl)biphenyl

38215-38-2P, 4,4'-Diethynylbiphenyl 375395-19-0P 375395-20-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(org. luminous materials prepd. using)

IT 7440-50-8, Copper, uses

RL: CAT (Catalyst use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)

(org. luminous materials prepd. using oxidative condensation polymn. catalyzed by)

IT 152270-00-3 350237-28-4

RL: RCT (Reactant); RACT (Reactant or reagent)

(org. luminous materials prepd. using oxidative condensation polymn. of)

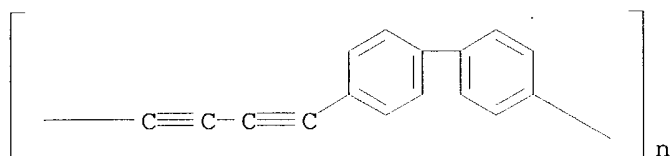
IT **121265-60-9P 375395-26-9P**

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; PROC (Process); USES (Uses)

(blue-emitting; org. luminous materials and org. light-emitting devices based on them)

RN 121265-60-9 HCAPLUS

CN Poly([1,1'-biphenyl]-4,4'-diyl-1,3-butadiyne-1,4-diyl) (9CI) (CA INDEX NAME)



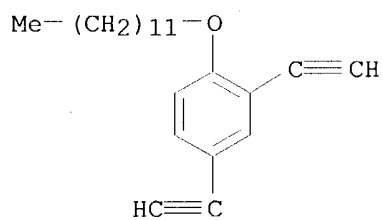
RN 375395-26-9 HCAPLUS

CN Benzene, 1,4-bis(dodecyloxy)-2,5-diethynyl-, polymer with 1-(dodecyloxy)-2,4-diethynylbenzene and 1,3,5-triethynylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 350237-28-4

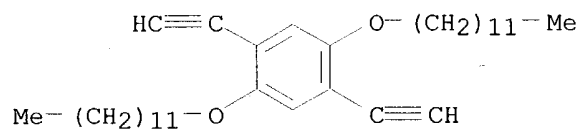
CMF C22 H30 O



CM 2

CRN 152270-00-3

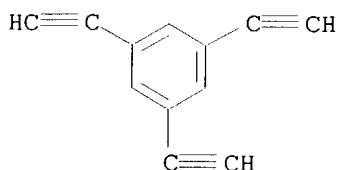
CMF C34 H54 O2



CM 3

CRN 7567-63-7

CMF C12 H6



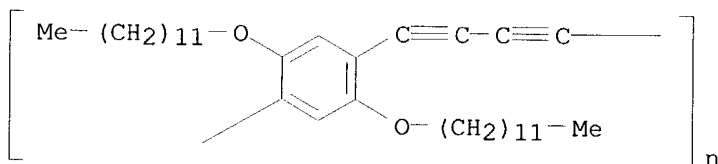
IT 227329-08-0P

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; PROC (Process); USES (Uses)

(green-emitting; org. luminous materials and org. light-emitting devices based on them)

RN 227329-08-0 HCAPLUS

CN Poly[[2,5-bis(dodecyloxy)-1,4-phenylene]-1,3-butadiyne-1,4-diyl] (9CI)
(CA INDEX NAME)



L26 ANSWER 11 OF 38 HCAPLUS COPYRIGHT 2002 ACS

AN 2001:832337 HCAPLUS

DN 136:102940

TI Linear and hyperbranched polymers with high thermal stability and luminescence efficiency

AU Lam, Jacky Wing Yip; Luo, Jing-Dong; Peng, Han; Xie, Zhi-Liang; Xue, Kai-Tian; Dong, Yu-Ping; Cheng, Lin; Qiu, Cheng-Feng; Kwok, Hoi Sing; Tang, Ben-Zhong

CS Department of Chemistry, Hong Kong University of Science and Technology, Hong Kong, Peop. Rep. China

SO Chinese Journal of Polymer Science (2001), 19(6), 585-590

CODEN: CJPSEG; ISSN: 0256-7679

PB Springer-Verlag

DT Journal

LA English

CC 36-5 (Physical Properties of Synthetic High Polymers)

Section cross-reference(s): 35, 73

AB New acetylene monomers, 6-[[[1-naphthylethynyl-4-phenyl]carbonyl]oxy]-1-phenyl-1-hexyne (1), 2,5-diethynylthiophene (3), and 4,4'-diethynylbiphenyl (6) were synthesized. Homopolymn. of 1 and copolycyclotrimerizations of 3 and 6 with 1-heptyne and 1-octyne have been achieved with WCl_6 - and $TaCl_5$ - Ph_4Sn catalysts, resp., giving sol. linear disubstituted polyacetylene (2) and hyperbranched polyarylenes (5 and 8) with high mol. wts. (up to 1.2 .times. 10⁵) in high yields (up to 98%). The structures and properties of the polymers are characterized and evaluated by IR, NMR, TGA, UV, photoluminescence (PL), and electroluminescence (EL) analyses. All the polymers possess high thermal stability and emit strong blue light upon photoexcitation. The intensity of the emitted light is greater than that of poly(1-phenyl-1-octyne), a

well-known highly luminescent disubstituted polyacetylene. Little aggregation-induced red shift in the PL was obsd. in the thin films of the polymers. By constructing a multi-layer EL device, high EL quantum yield (0.18%) has been achieved in 2, which are the best results for substituted polyacetylenes attainable so far.

ST polyacetylene hyperbranched polyarylene light emission; luminescence polyacetylene hyperbranched polyarylene; thermal stability polyacetylene hyperbranched polyarylene

IT Polyacetylenes, properties

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (hyperbranched; prepn. and luminescence efficiency of linear and hyperbranched polymers with high thermal stability)

IT Fluorescence

Luminescence

Luminescence, electroluminescence

Polymerization

Thermal stability

(prepn. and luminescence efficiency of linear and hyperbranched polymers with high thermal stability)

IT 365568-91-8P 372075-44-0P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(hyperbranched; prepn. and luminescence efficiency of linear and hyperbranched polymers with high thermal stability)

IT 371777-55-8P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(prepn. and luminescence efficiency of linear and hyperbranched polymers with high thermal stability)

RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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IT 365568-91-8P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(hyperbranched; prepn. and luminescence efficiency of linear and hyperbranched polymers with high thermal stability)

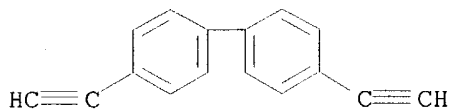
RN 365568-91-8 HCAPLUS

CN 1,1'-Biphenyl, 4,4'-diethynyl-, polymer with 1-octyne (9CI) (CA INDEX NAME)

CM 1

CRN 38215-38-2

CMF C16 H10



CM 2

CRN 629-05-0

CMF C8 H14

Me-(CH₂)₅-C≡CH

IT 371777-55-8P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(prepn. and luminescence efficiency of linear and hyperbranched polymers with high thermal stability)

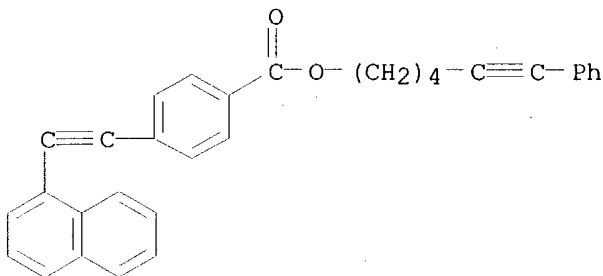
RN 371777-55-8 HCAPLUS

CN Benzoic acid, 4-(1-naphthalenylethynyl)-, 6-phenyl-5-hexynyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 371777-54-7

CMF C31 H24 O2



L26 ANSWER 12 OF 38 HCAPLUS COPYRIGHT 2002 ACS

AN 2001:662183 HCAPLUS

DN 135:349792

TI Synthesis and luminescence of poly(1-phenyl-1-hexyne) bearing naphthylethynylphenyl moiety

AU Xie, Zhi Liang; Lam, Jacky Wing Yip; Qiu, Cheng Feng; Luo, Jing Dong; Kwok, Hoi Sing; Tang, Ben Zhong

CS Department of Chemistry, Hong Kong University of Science & Technology, Kowloon, Hong Kong, Peop. Rep. China

SO Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (2001), 42(2), 496-497

CODEN: ACPPAY; ISSN: 0032-3934

PB American Chemical Society, Division of Polymer Chemistry

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DT Journal; (computer optical disk)
 LA English
 CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 36, 38
 AB The novel disubstituted polymer bearing naphthylethynylphenyl moiety was synthesized and its unique electrooptical properties were presented. Naphthylethynylphenyl moiety was incorporated into 1-phenyl-1-hexyne structure and a disubstituted acetylenic monomer was prep'd. through multi-step reactions. The monomer was polymd. by WCl₆-Ph₄Sn catalyst and the reaction conducted under optimum condition gave polymer in high yield (up to 83.6%). The resulting polymer (1) showed little backbone absorption but when the THF soln. of the polymer was irradiated at 362 nm, it emitted strong blue light of 470 nm, whose intensity was much higher than that of poly(1-phenyl-1-octyne). The PL peak of polymer 1 in solid state showed no aggregation-induced red shift. High electroluminescence (EL) quantum yield was obtained in 1 by constructing a multi-layer EL device. The turn-on voltage was a little bit high, indicating that there was a large barrier between ITO electrode and polymer layer.
 ST polymer naphthylethynylphenyl moiety polyphenylhexyne photoluminescence synthesis
 IT Electroluminescent devices
 Luminescence
 Luminescence, electroluminescence
 Polymerization
 UV and visible spectra
 (synthesis and luminescence of poly(1-phenyl-1-hexyne) bearing naphthylethynylphenyl moiety)
 IT 595-90-4, Tetraphenyl tin 13283-01-7, Tungsten hexachloride
 RL: CAT (Catalyst use); USES (Uses)
 (synthesis and luminescence of poly(1-phenyl-1-hexyne) bearing naphthylethynylphenyl moiety)
 IT **371777-55-8P**
 RL: DEV (Device component use); PNU (Preparation, unclassified); PRP (Properties); **PREP (Preparation)**; USES (Uses)
 (synthesis and luminescence of poly(1-phenyl-1-hexyne) bearing naphthylethynylphenyl moiety)
 IT 2085-33-8, Aluminum tris(8-hydroxyquinolinato) 4733-39-5, Bathocuproine
 RL: DEV (Device component use); PRP (Properties); USES (Uses)
 (synthesis and luminescence of poly(1-phenyl-1-hexyne) bearing naphthylethynylphenyl moiety)
 IT 10602-00-3 69936-53-4 371777-54-7
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (synthesis and luminescence of poly(1-phenyl-1-hexyne) bearing naphthylethynylphenyl moiety)
 IT 90-14-2P, 1-Iodonaphthalene 371777-56-9P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (synthesis and luminescence of poly(1-phenyl-1-hexyne) bearing naphthylethynylphenyl moiety)
 RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD
 RE
 (1) Burroughes, J; Nature 1990, V539, P347
 (2) Carter, P; Phys Rev B 1991, V43, P14478 HCAPLUS
 (3) Dong, Y; Polym Mater Sci Eng 2001, V84, P539
 (4) Dong, Y; Polym Mater Sci Eng 2001, V84, P616
 (5) Dong, Y; Polym Prepr 2001, V42(1), P572 HCAPLUS
 (6) Etemad, S; Annu Rev Phys Chem 1982, V33, P443 HCAPLUS
 (7) Huang, Y; Appl Phys Lett 1999, V75, P4094 HCAPLUS
 (8) Huang, Y; Macromolecules 1999, V32, P5976 HCAPLUS

- (9) Kido, J; Phys World 1999, V12, P27 HCAPLUS
- (10) Kijima, Y; Jpn J Appl Phys 1999, V38, P5274 HCAPLUS
- (11) Lam, J; Polym Prepr 2001, V42(1), P570 HCAPLUS
- (12) Sun, R; Jpn J Appl Phys 1996, V35, PL1434 HCAPLUS
- (13) Sun, R; Synth Met 1997, V91, P301 HCAPLUS

IT 371777-55-8P

RL: DEV (Device component use); PNU (Preparation, unclassified); PRP (Properties); **PREP (Preparation)**; USES (Uses)
(synthesis and **luminescence** of poly(1-phenyl-1-hexyne) bearing naphthylethynylphenyl moiety)

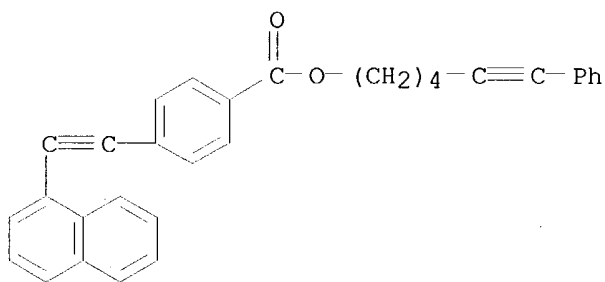
RN 371777-55-8 HCAPLUS

CN Benzoic acid, 4-(1-naphthalenylethynyl)-, 6-phenyl-5-hexynyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 371777-54-7

CMF C31 H24 O2



L26 ANSWER 13 OF 38 HCAPLUS COPYRIGHT 2002 ACS

AN 2001:662012 HCAPLUS

DN 135:372109

TI Highly luminescent hyperbranched polyphenylenes containing fluorene moieties

AU Peng, Han; Xie, Zhiliang; Luo, Jingdong; Cheng, Lin; Xu, Kaitain; Jia, Demin; Kwok, Hoising; Tang, Ben Zhong

CS Department of Chemistry, Hong Kong University of Science & Technology, Kowloon, Hong Kong, Peop. Rep. China

SO Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (2001), 42(2), 230-231

CODEN: ACPPAY; ISSN: 0032-3934

PB American Chemical Society, Division of Polymer Chemistry

DT Journal; (computer optical disk)

LA English

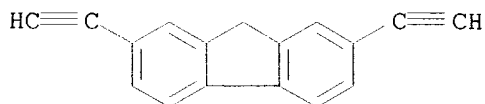
CC 35-7 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 73

AB A novel class of hyperbranched polyphenylenes contg. fluorene moieties was synthesized by copolycyclotrimerizations of diacetylenes with monoacetylenes. Copolymns. of 2,7-diethynylfluorene with phenylacetylene, 1-octyne and 1-dodecyne were carried out using TaCl5-Ph4Sn as the catalyst in toluene. The mol. wts. of the copolymers can be tuned by changing the feed ratios of diacetylene to monoacetylene. The structures and properties of the copolymers are characterized and evaluated by IR, UV, NMR, TGA and fluorescence analyses. The results indicate that these copolymers have good soly. in common org. solvents, excellent thermal stability, and emit strong deep-blue light of 400 nm when excited at 352

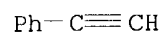
nm. The obsd. fluorescence intensities are much high than that of poly(1-phenyl-1-octyne), a well-known highly fluorescent polymer. In comparison to the polymer solns., the polymer films show emission max. that are only about 16 nm bathochromically shifted. These novel hyperbranched polymers are thus excellent luminescent materials with high thermal stability.

ST polyphenylene fluorene contg hyperbranched luminescence
 IT Fluorescence
 Solubility
 UV and visible spectra
 (highly luminescent hyperbranched polyphenylenes contg. fluorene moieties)
 IT Polyacetylenes, preparation
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (highly luminescent hyperbranched polyphenylenes contg. fluorene moieties)
 IT **365568-93-0P 365568-94-1P 365568-95-2P**
 RL: PRP (Properties); **SPN (Synthetic preparation); PREP (Preparation)**
 (highly luminescent hyperbranched polyphenylenes contg. fluorene moieties)
 IT 1066-54-2 16433-88-8
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (highly luminescent hyperbranched polyphenylenes contg. fluorene moieties)
 IT 94463-11-3P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (highly luminescent hyperbranched polyphenylenes contg. fluorene moieties)
 RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
 RE
 (1) Hulim, M; Adv Mater 1999, V11, P371
 (2) Peng, H; Polm Mater Sci Eng 2001, V84, P643
 (3) Peng, H; Polm Prepr 2001, V42(1), P560 HCAPLUS
 (4) Setayesh, S; J Am Chem Soc 2001, V123, P946 HCAPLUS
 IT **365568-93-0P 365568-94-1P 365568-95-2P**
 RL: PRP (Properties); **SPN (Synthetic preparation); PREP (Preparation)**
 (highly luminescent hyperbranched polyphenylenes contg. fluorene moieties)
 RN 365568-93-0 HCAPLUS
 CN 9H-Fluorene, 2,7-diethynyl-, polymer with ethynylbenzene (9CI) (CA INDEX NAME)
 CM 1
 CRN 94463-11-3
 CMF C17 H10



CM 2

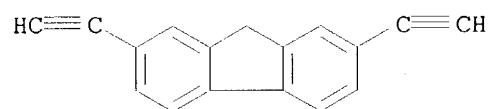
CRN 536-74-3
CMF C8 H6



RN 365568-94-1 HCAPLUS
CN 9H-Fluorene, 2,7-diethynyl-, polymer with 1-octyne (9CI) (CA INDEX NAME)

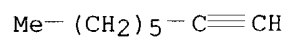
CM 1

CRN 94463-11-3
CMF C17 H10



CM 2

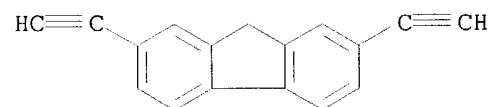
CRN 629-05-0
CMF C8 H14



RN 365568-95-2 HCAPLUS
CN 9H-Fluorene, 2,7-diethynyl-, polymer with 1-dodecyne (9CI) (CA INDEX NAME)

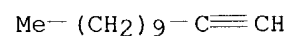
CM 1

CRN 94463-11-3
CMF C17 H10



CM 2

CRN 765-03-7
CMF C12 H22



AN 2001:585225 HCAPLUS
 DN 135:304376
 TI Light emitting and optical limiting properties of hyperbranched polyphenylenes
 AU Peng, Han; Luo, Jingdong; Cheng, Lin; Xu, Kaitain; Jia, Demin; Zhang, Dezhen; Xu, Zhongde; Tang, Ben Zhong
 CS Department of Chemistry, Hong Kong University of Science and Technology, Hong Kong, Peop. Rep. China
 SO Polymeric Materials Science and Engineering (2001), 85, 383-384
 CODEN: PMSEDG; ISSN: 0743-0515
 PB American Chemical Society
 DT Journal
 LA English
 CC 36-5 (Physical Properties of Synthetic High Polymers)
 Section cross-reference(s): 35, 73
 AB New hyperbranched polyphenylenes with high mol. wts. were synthesized by copolycyclotrimerization of diynes with monoynes with various arom. and aliph. groups. The structures and properties of the copolymers are characterized and evaluated by IR, UV, NMR, TGA and fluorescence analyses. The results indicate that these copolymers have good soly. in common org. solvents, excellent thermal stability, and emit strong deep-blue light at 400 nm. The obsd. fluorescence intensities are much high than that of poly(1-phenyl-1-octyne), a well-known highly fluorescent acetylene. All the polyphenylenes effectively limit the 8-ns pulses of 532 nm laser light. These novel hyperbranched polyphenylenes are thus excellent optical limiting materials with high thermal stability.
 ST hyperbranched polyacetylene light emitting optical limiting property; fluorescence hyperbranched polyacetylene
 IT Fluorescence
 Solubility
 UV and visible spectra
 (light emitting and optical limiting properties of hyperbranched polyphenylenes)
 IT Polyacetylenes, properties
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (light emitting and optical limiting properties of hyperbranched polyphenylenes)
 IT Optical transmission
 (nonlinear; light emitting and optical limiting properties of hyperbranched polyphenylenes)
 IT Polymerization
 (polycyclotrimerization and; light emitting and optical limiting properties of hyperbranched polyphenylenes)
 IT Nonlinear optical properties
 (transmission; light emitting and optical limiting properties of hyperbranched polyphenylenes)
 IT 28408-99-3P 76307-47-6P 365568-89-4P
 365568-90-7P 365568-91-8P 365568-92-9P
 365568-93-0P 365568-94-1P 365568-95-2P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (light emitting and optical limiting properties of hyperbranched polyphenylenes)
 RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
 RE
 (1) Peng, H; Z Polym Mater Sci Eng 2001, V84, P643
 (2) Peng, H; Z Polym Prepr 2001, V42(1), P560 HCAPLUS
 (3) Peng, H; Z Polym Prepr, in press 2001, V42(2) HCAPLUS
 (4) Xu, K; Z Polym Prepr 2000, V41(2), P1245 HCAPLUS
 (5) Xu, K; Z Polym Prepr 2000, V41(2), P1318 HCAPLUS

(6) Xu, K; Z Polym Prepr 2001, V42(1), P555 HCAPLUS

IT 28408-99-3P 76307-47-6P 365568-89-4P

365568-90-7P 365568-91-8P 365568-92-9P

365568-93-0P 365568-94-1P 365568-95-2P

RL: PRP (Properties); SPN (Synthetic preparation); PREP

(Preparation)

(light emitting and optical limiting properties of hyperbranched polyphenylenes)

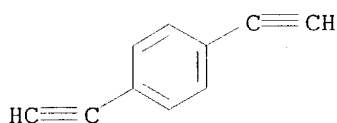
RN 28408-99-3 HCAPLUS

CN Benzene, 1,4-diethynyl-, polymer with ethynylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 935-14-8

CMF C10 H6



CM 2

CRN 536-74-3

CMF C8 H6

Ph-C≡CH

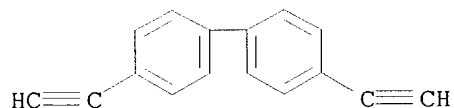
RN 76307-47-6 HCAPLUS

CN 1,1'-Biphenyl, 4,4'-diethynyl-, polymer with ethynylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 38215-38-2

CMF C16 H10



CM 2

CRN 536-74-3

CMF C8 H6

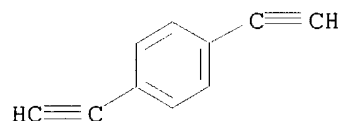
Ph-C≡CH

RN 365568-89-4 HCAPLUS
 CN Benzene, 1,4-diethynyl-, polymer with 1-octyne (9CI) (CA INDEX NAME)

CM 1

CRN 935-14-8

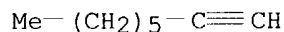
CMF C10 H6



CM 2

CRN 629-05-0

CMF C8 H14

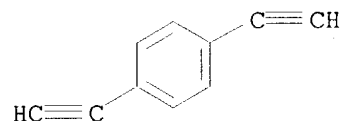


RN 365568-90-7 HCAPLUS
 CN Benzene, 1,4-diethynyl-, polymer with 1-dodecyne (9CI) (CA INDEX NAME)

CM 1

CRN 935-14-8

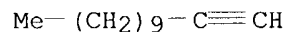
CMF C10 H6



CM 2

CRN 765-03-7

CMF C12 H22

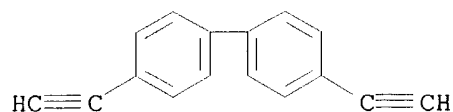


RN 365568-91-8 HCAPLUS
 CN 1,1'-Biphenyl, 4,4'-diethynyl-, polymer with 1-octyne (9CI) (CA INDEX NAME)

CM 1

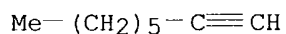
CRN 38215-38-2

CMF C16 H10



CM 2

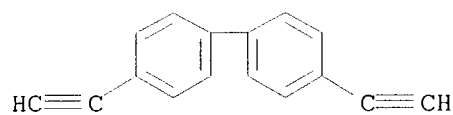
CRN 629-05-0
CMF C8 H14



RN 365568-92-9 HCAPLUS
CN 1,1'-Biphenyl, 4,4'-diethynyl-, polymer with 1-dodecyne (9CI) (CA INDEX NAME)

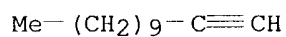
CM 1

CRN 38215-38-2
CMF C16 H10



CM 2

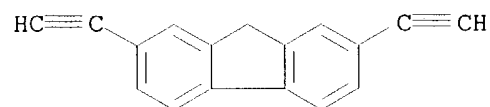
CRN 765-03-7
CMF C12 H22



RN 365568-93-0 HCAPLUS
CN 9H-Fluorene, 2,7-diethynyl-, polymer with ethynylbenzene (9CI) (CA INDEX NAME)

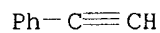
CM 1

CRN 94463-11-3
CMF C17 H10



CM 2

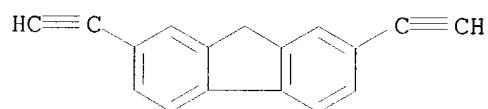
CRN 536-74-3
CMF C8 H6



RN 365568-94-1 HCAPLUS
CN 9H-Fluorene, 2,7-diethynyl-, polymer with 1-octyne (9CI) (CA INDEX NAME)

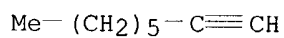
CM 1

CRN 94463-11-3
CMF C17 H10



CM 2

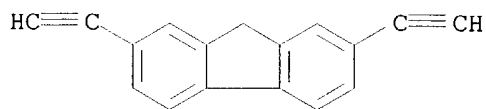
CRN 629-05-0
CMF C8 H14



RN 365568-95-2 HCAPLUS
CN 9H-Fluorene, 2,7-diethynyl-, polymer with 1-dodecyne (9CI) (CA INDEX NAME)

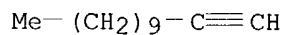
CM 1

CRN 94463-11-3
CMF C17 H10



CM 2

CRN 765-03-7
CMF C12 H22



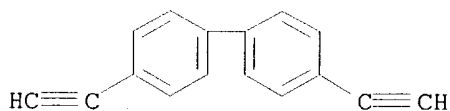
L26 ANSWER 15 OF 38 HCAPLUS COPYRIGHT 2002 ACS
 AN 2001:585211 HCAPLUS
 DN 135:289149
 TI Soluble, hyperbranched poly(phenylenes) with high light emitting efficiency
 AU Luo, Jingdong; Xie, Zhiliang; Peng, Han; Cheng, Lin; Tang, Ben Zhong
 CS Department of Chemistry, Hong Kong University of Science and Technology, Kowloon, Peop. Rep. China
 SO Polymeric Materials Science and Engineering (2001), 85, 356-357
 CODEN: PMSEDG; ISSN: 0743-0515
 PB American Chemical Society
 DT Journal
 LA English
 CC 35-5 (Chemistry of Synthetic High Polymers)
 AB Sol. hyperbranched poly(phenylenes) with high mol. wt. were prep'd. by one-pot copolycyclotrimerization of 4,4'-diethylylbiphenyl and 1-heptyne, and the hyperbranched structure were characterized. These polymers all emit strong deep blue light at 400 nm and exhibit excellent thermal stability. The tendency of aggregation formation in thin films is significantly suppresses. Therefore, these polymers can be considered as good candidate materials with improved comprehensive properties for LED.
 ST diethylylbiphenyl heptyne polyphenylene hyperbranched soly
 IT Polyacetylenes, preparation
 Polyphenyls
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (dendrimers; sol., hyperbranched poly(phenylenes) with high light emitting efficiency)
 IT Dendritic polymers
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyacetylenes; sol., hyperbranched poly(phenylenes) with high light emitting efficiency)
 IT Dendritic polymers
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyphenyls; sol., hyperbranched poly(phenylenes) with high light emitting efficiency)
 IT Fluorescence
 Solubility
 (sol., hyperbranched poly(phenylenes) with high light emitting efficiency)
 IT **364732-35-4P**
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (sol., hyperbranched poly(phenylenes) with high light emitting efficiency)
 RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
 RE
 (1) Grell, M; Macromolecules 1999, V32, P5810 HCAPLUS
 (2) Hawker, C; J Am Chem Soc 1991, V113, P4583 HCAPLUS
 (3) Hecht, S; Angew Chem Int Ed 2001, V40, P74 HCAPLUS
 (4) Kim, D; Prog Polym Sci 2000, V25, P1089 HCAPLUS
 (5) Peng, H; Polym Prepr in press 2001, V42(1) HCAPLUS
 (6) Setayesh, S; J Am Chem Soc 2001, V123, P946 HCAPLUS
 (7) Xu, K; Polym Mater Sci Eng 2001, V84, P941
 IT **364732-35-4P**
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (sol., hyperbranched poly(phenylenes) with high light emitting efficiency)
 RN 364732-35-4 HCAPLUS
 CN 1,1'-Biphenyl, 4,4'-diethynyl-, polymer with 1-heptyne (9CI) (CA INDEX

NAME)

CM 1

CRN 38215-38-2

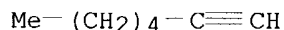
CMF C16 H10



CM 2

CRN 628-71-7

CMF C7 H12



L26 ANSWER 16 OF 38 HCAPLUS COPYRIGHT 2002 ACS

AN 2001:368970 HCAPLUS

DN 135:181052

TI Synthesis and electroluminescence of poly(aryleneethynylene)s based on fluorene containing hole-transport units

AU Zhan, Xiaowei; Liu, Yunqi; Yu, Gui; Wu, Xia; Zhu, Daoben; Sun, Runguang; Wang, Daike; Epstein, Arthur J.

CS Institute of Chemistry, Center for Molecular Science, Chinese Academy of Sciences, Beijing, 100080, Peop. Rep. China

SO Journal of Materials Chemistry (2001), 11(6), 1606-1611

CODEN: JMACEP; ISSN: 0959-9428

PB Royal Society of Chemistry

DT Journal

LA English

CC 35-7 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 36, 73

AB A series of light-emitting poly(arylene ethynylene)s (PAE) based on fluorene with sterically hindered substituents contg. hole transport units such as tetraphenyldiaminobiphenyl, carbazole, and thiophene and the non-planar unit binaphthyl, were synthesized by palladium-catalyzed coupling reaction. The introduction of hole transport moieties into the PAE main chain improved the luminance properties of PAE polymers. The electronic structure and photo- and electroluminescent (EL) properties of these polymers can be manipulated by simply varying the nature of the co-units in the polymeric chain. The spectral emission varies from greenish-blue to green or yellowish-green, depending on the compn. of the copolymers. A single-layer test device, light-emitting diode (LED) prepd. from poly{[2,7-diethynyl-9,9-bis(2-ethylhexyl)fluorene]-alt-[N,N'-diphenyl-N,N'-bis(4-phenyl)-1,1'-biphenyl-4,4'-diamine]} (TPD-PFE) using an aluminum electrode emits green light (510 nm) with an EL external quantum efficiency of 0.007% and a brightness of 30 cd m⁻² at a bias voltage of 27 V and a c.d. of 420 mA cm⁻². An EL external quantum efficiency of 0.06% can be obtained from a blue-emitting double-layer LED with the structure of ITO/TPD-PFE/2-(2-hydroxyphenyl)pyridylberyllium/LiF/AlLi at a c.d. of 38 mA cm⁻².

- ST polyaryleneethynylene conjugated polymer aminobiphenyl carbazole unit
prepn; palladium catalyzed coupling polymn arylene ethynylene thiophene
unit; polyphenylene polythiophene polyacetylene prepn electroluminescence
- IT Polymers, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(conjugated; prepn. and electroluminescence and redox potential of
light-emitting poly(arylene ethynylene)s with diaminobiphenyl and
carbazole and thiophene hole transport units)
- IT Polymerization
(coupling; prepn. and electroluminescence and redox potential of
light-emitting poly(arylene ethynylene)s with diaminobiphenyl and
carbazole and thiophene hole transport units)
- IT Redox reaction
(electrochem.; prepn. and electroluminescence and redox potential of
light-emitting poly(arylene ethynylene)s with diaminobiphenyl and
carbazole and thiophene hole transport units)
- IT Light
(green; prepn. and electroluminescence and redox potential of
light-emitting poly(arylene ethynylene)s with diaminobiphenyl and
carbazole and thiophene hole transport units)
- IT Electroluminescent devices
(light-emitting diodes; electroluminescence and quantum efficiency of
test LEDs with poly[fluorenyl-ethynylene] emitter layer)
- IT Polyphenyls
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyacetylene-; prepn. and electroluminescence and redox potential of
light-emitting poly(arylene ethynylene)s with diaminobiphenyl and
carbazole and thiophene hole transport units)
- IT Polyacetylenes, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyphenyl-; prepn. and electroluminescence and redox potential of
light-emitting poly(arylene ethynylene)s with diaminobiphenyl and
carbazole and thiophene hole transport units)
- IT Polyacetylenes, properties
RL: PRP (Properties)
(polythiophene-, polyphenyl; prepn. and electroluminescence and redox
potential of light-emitting poly(arylene ethynylene)s with
diaminobiphenyl and carbazole and thiophene hole transport units)
- IT Coupling reaction
Electron configuration
Luminescence, electroluminescence
Redox potential
(prepn. and electroluminescence and redox potential of light-emitting
poly(arylene ethynylene)s with diaminobiphenyl and carbazole and
thiophene hole transport units)
- IT 14221-01-3, Tetrakis(triphenylphosphine)palladium
RL: CAT (Catalyst use); USES (Uses)
(coupling polymn. catalyst; prepn. and electroluminescence and redox
potential of light-emitting poly(arylene ethynylene)s with
diaminobiphenyl and carbazole and thiophene hole transport units)
- IT 7429-90-5, Aluminum, uses 12042-37-4, Al, Li 50926-11-9, Indium tin
oxide
RL: DEV (Device component use); USES (Uses)
(electrode; electroluminescence and quantum efficiency of test LEDs
with poly[fluorenyl-ethynylene] emitter layer)
- IT 344782-51-0 344782-53-2
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(electroluminescence and quantum efficiency of test LEDs with
poly[fluorenyl-ethynylene] emitter layer)
- IT 355804-12-5 355804-13-6

RL: PRP (Properties)
 (electroluminescence and redox potential and band gap of poly(arylene ethynylene)s with diaminobiphenyl and carbazole and thiophene hole transport units)

IT 220694-90-6
 RL: DEV (Device component use); USES (Uses)
 (electron transport layer; electroluminescence and quantum efficiency of test LEDs with poly[fluorenyl-ethynylene] emitter layer)

IT 7789-24-4, Lithium fluoride, uses
 RL: DEV (Device component use); USES (Uses)
 (insulating layer; electroluminescence and quantum efficiency of test LEDs with poly[fluorenyl-ethynylene] emitter layer)

IT 344782-58-7 344782-59-8
 RL: PRP (Properties)
 (prepn. and electroluminescence and redox potential of **light-emitting** poly(arylene ethynylene)s with diaminobiphenyl and carbazole and thiophene hole transport units)

IT 355804-06-7P 355804-07-8P 355804-08-9P
 355804-09-0P 355804-10-3P 355804-11-4P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and electroluminescence and redox potential of **light-emitting** poly(arylene ethynylene)s with diaminobiphenyl and carbazole and thiophene hole transport units)

RE.CNT 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD
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- (33) Yu, W; Chem Commun 1999, V1837
- (34) Zhan, X; Chem Mater, in the press

(35) Zhan, X; Synth Met, in the press

(36) Zheng, L; Chem Mater 2000, V12, P13 HCAPLUS

IT 344782-58-7 344782-59-8

RL: PRP (Properties)

(prepn. and electroluminescence and redox potential of **light-emitting** poly(arylene ethynylene)s with diaminobiphenyl and carbazole and thiophene hole transport units)

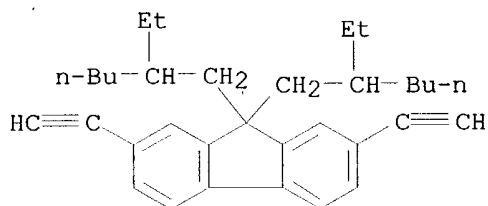
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CN 9H-Fluorene, 9,9-bis(2-ethylhexyl)-2,7-diethynyl-, polymer with 2,7-dibromo-9,9-bis(2-ethylhexyl)-9H-fluorene (9CI) (CA INDEX NAME)

CM 1

CRN 344782-47-4

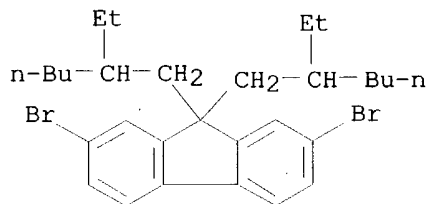
CMF C33 H42



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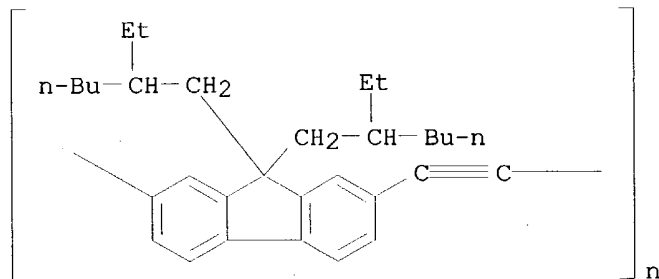
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CMF C29 H40 Br2



RN 344782-59-8 HCAPLUS

CN Poly[[9,9-bis(2-ethylhexyl)-9H-fluorene-2,7-diyl]-1,2-ethynediyl] (9CI)
(CA INDEX NAME)



IT 355804-06-7P 355804-07-8P 355804-08-9P

355804-09-0P 355804-10-3P 355804-11-4P

RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)

(prepn. and electroluminescence and redox potential of **light-emitting** poly(arylene ethynylene)s with diaminobiphenyl and carbazole and thiophene hole transport units)

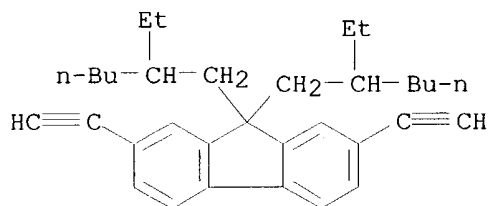
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CN 9H-Carbazole, 9-hexyl-3,6-diiodo-, polymer with 9,9-bis(2-ethylhexyl)-2,7-diethynyl-9H-fluorene (9CI) (CA INDEX NAME)

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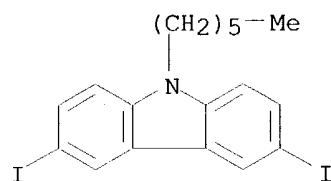
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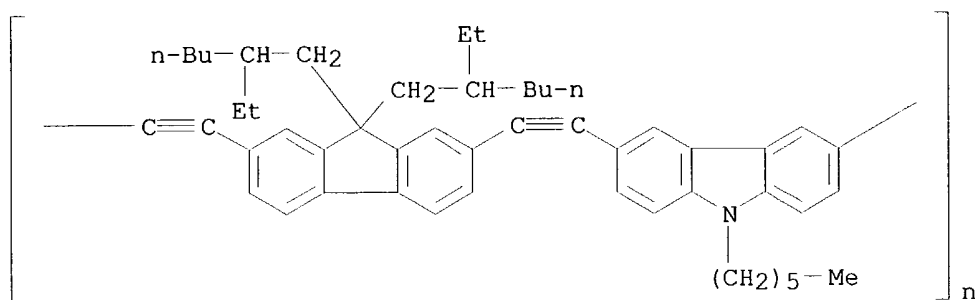
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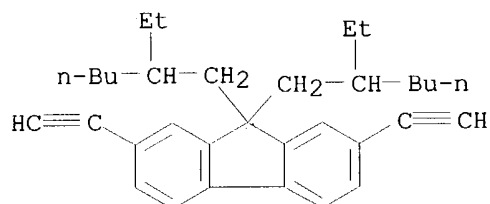
CN Poly[(9-hexyl-9H-carbazole-3,6-diyl)-1,2-ethynediyl[9,9-bis(2-ethylhexyl)-9H-fluorene-2,7-diyl]-1,2-ethynediyl] (9CI) (CA INDEX NAME)



RN 355804-08-9 HCAPLUS
 CN 9H-Fluorene, 9,9-bis(2-ethylhexyl)-2,7-diethynyl-, polymer with
 1,4-bis(hexyloxy)-2,5-diiodobenzene (9CI) (CA INDEX NAME)

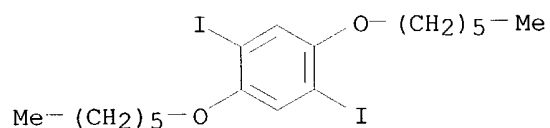
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CRN 344782-47-4
 CMF C33 H42

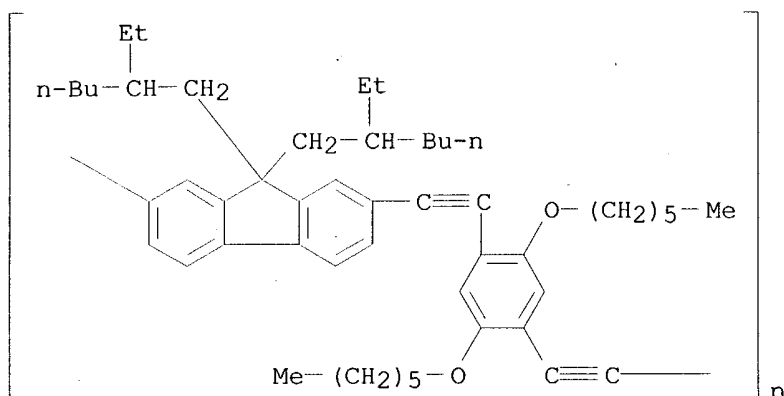


CM 2

CRN 153033-31-9
 CMF C18 H28 I2 O2



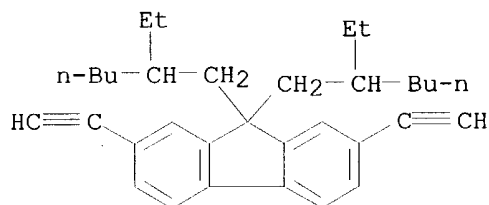
RN 355804-09-0 HCAPLUS
 CN Poly[[9,9-bis(2-ethylhexyl)-9H-fluorene-2,7-diyl]-1,2-ethynediyl[2,5-
 bis(hexyloxy)-1,4-phenylene]-1,2-ethynediyl] (9CI) (CA INDEX NAME)



RN 355804-10-3 HCAPLUS
 CN 9H-Fluorene, 9,9-bis(2-ethylhexyl)-2,7-diethynyl-, polymer with
 6,6'-dibromo-2,2'-bis(hexyloxy)-1,1'-binaphthalene (9CI) (CA INDEX NAME)

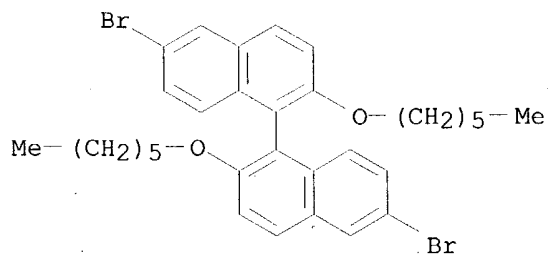
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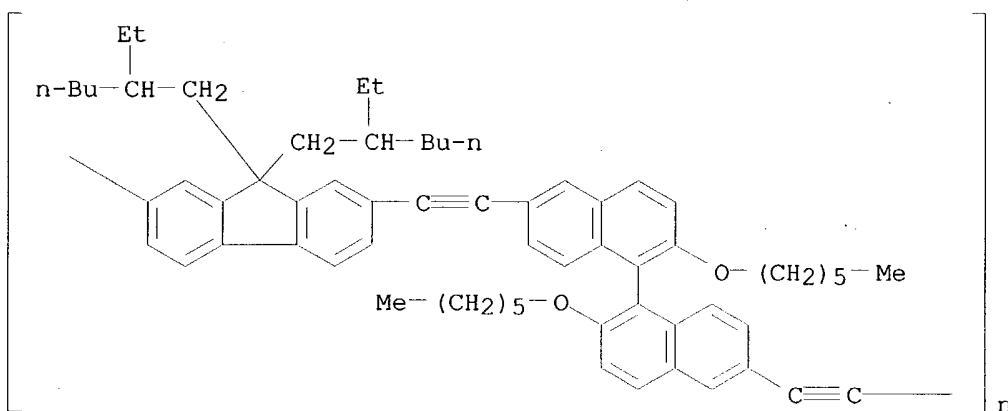


CM 2

CRN 191787-87-8
 CMF C32 H36 Br2 O2



RN 355804-11-4 HCAPLUS
 CN Poly[[9,9-bis(2-ethylhexyl)-9H-fluorene-2,7-diyl]-1,2-ethynediyl[2,2'-bis(hexyloxy)[1,1'-binaphthalene]-6,6'-diyl]-1,2-ethynediyl] (9CI) (CA INDEX NAME)



L26 ANSWER 17 OF 38 HCAPLUS COPYRIGHT 2002 ACS

AN 2001:221071 HCAPLUS

DN 135:19997

TI Synthesis and properties of thermally stable and light emitting liquid crystalline poly(butyrate) and poly(phenylpropionate)

AU Lam, Jacky Wing Yip; Dong, Yuping; Tang, Ben Zhong

CS Department of Chemistry, Hong Kong University of Science & Technology, Hong Kong, Peop. Rep. China

SO Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (2001), 42(1), 570-571

CODEN: ACPPAY; ISSN: 0032-3934

PB American Chemical Society, Division of Polymer Chemistry

DT Journal; (computer optical disk)

LA English

CC 35-4 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 73, 75

AB Two new ester derivs. of butyric and phenylpropionic acids were synthesized by esterification of 6-hydroxy-1-hexyl 4'-heptoxy-4-biphenylcarboxylate with the corresponding acids in the presence of 1,3-dicyclohexylcarbodiimide, p-toluenesulfonic acid, and DMAP. The resulting polymers were thermally stable and showed enantiotropic liq. cryst. properties. While the butyrate polymer could emit strong blue light owing to the biphenyl mesogens upon UV irradiation, emission from the pendant in the phenylpropionate polymer was effectively quenched by the backbone.

ST light emitting liq. cryst. polybutyrate polyphenylpropionate

IT Phosphors

(electroluminescent; prepn. and properties of thermally stable and

light emitting liq. cryst. poly(butyrate) and poly(phenylpropionate))

IT Fluorescence

Liquid crystals, polymeric

Thermal stability

(prepn. and properties of thermally stable and light emitting liq.

cryst. poly(butyrate) and poly(phenylpropionate))

IT Polyacetylenes, preparation

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(prepn. and properties of thermally stable and light emitting liq.

cryst. poly(butyrate) and poly(phenylpropionate))

IT 222853-69-2

RL: RCT (Reactant); RACT (Reactant or reagent)

(esterification with alkynoic acid)

IT 590-93-2, 2-Butynoic acid 637-44-5, Phenylpropionic acid
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (esterification with hydroxyhexyl heptoxybiphenylcarboxylate)
 IT 342882-87-5P 342882-88-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (prepn. and polymn. of)
 IT **342882-89-7P** 342883-01-6P
 RL: PRP (Properties); **SPN (Synthetic preparation); PREP**
(Preparation)
 (prepn. and properties of thermally stable and **light**
emitting liq. cryst. poly(butynoate) and
 poly(phenylpropiolate))

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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 Supplement C2

IT **342882-89-7P**
 RL: PRP (Properties); **SPN (Synthetic preparation); PREP**
(Preparation)
 (prepn. and properties of thermally stable and **light**
emitting liq. cryst. poly(butynoate) and
 poly(phenylpropiolate))

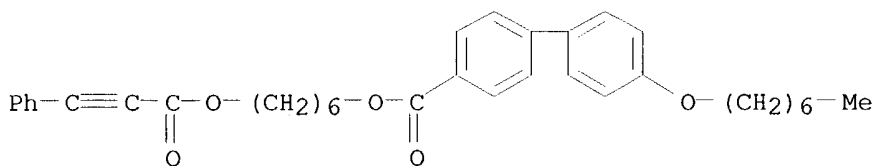
RN 342882-89-7 HCAPLUS

CN [1,1'-Biphenyl]-4-carboxylic acid, 4'-(heptyloxy)-, 6-[(1-oxo-3-phenyl-2-propynyl)oxy]hexyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 342882-88-6

CMF C35 H40 O5



L26 ANSWER 18 OF 38 HCAPLUS COPYRIGHT 2002 ACS

AN 2001:206603 HCAPLUS

DN 134:367506

TI Design and photofunctions of dendrimer-encapsulated
 poly(phenyleneethynylene)s

AU Jiang, Dong-Lin; Sato, Takafumi; Aida, Takuzo

CS Department of Chemistry and Biotechnology, Graduate School of Engineering,
 The University of Tokyo, Tokyo, 113-8656, Japan

SO Chinese Journal of Polymer Science (2001), 19(2), 161-166

CODEN: CJPSEG; ISSN: 0256-7679

PB Springer-Verlag

DT Journal

LA English

- CC 36-5 (Physical Properties of Synthetic High Polymers)
Section cross-reference(s): 35, 73
- AB A series of increasing generation dendrimer side-groups on phenylacetylene copolymers were synthesized. The light-harvesting antenna functions of dendrimer frame works together with the blue-light emitting activities of the phenylacetylene copolymers were highlighted. The phenylacetylene copolymer with largest dendrimer side-group gave a high emission quantum yield of 0.97, indicating that the dendrimers protect the conjugated backbone from collisional energy dissipation.
- ST light harvesting antenna dendritic side group phenylacetylene copolymer; blue light emitting phenylacetylene copolymer dendritic side group
- IT Light
(blue; light-harvesting antenna dendritic-side-groups on phenylacetylene copolymer that emits blue light)
- IT Polyethers, properties
RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(dendrimers; light-harvesting antenna dendritic-side-groups on phenylacetylene copolymer that emits blue light)
- IT Conducting polymers
Electronic excitation
Fluorescence
(light-harvesting antenna dendritic-side-groups on phenylacetylene copolymer that emits blue light)
- IT Polyacetylenes, properties
RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(light-harvesting antenna dendritic-side-groups on phenylacetylene copolymer that emits blue light)
- IT Photosystems
(light-harvesting antenna; light-harvesting antenna dendritic-side-groups on phenylacetylene copolymer that emits blue light)
- IT Dendritic polymers
RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(polyethers; light-harvesting antenna dendritic-side-groups on phenylacetylene copolymer that emits blue light)
- IT 135756-78-4DP, reaction products with 2,5-diethynylhydroquinone, polymers with p-diiodobenzene
RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(dendritic; light-harvesting antenna dendritic-side-groups on phenylacetylene copolymer that emits blue light)
- IT 536-74-3DP, Ethynylbenzene, reaction products with phenylacetylene copolymer with dendritic-side-groups **252273-92-ODP**, ethynylbenzene terminated **252273-94-2DP**, ethynylbenzene terminated **340232-49-7P 340232-50-OP**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); **SPN (Synthetic preparation); PREP (Preparation); PROC (Process)**
(light-harvesting antenna dendritic-side-groups on phenylacetylene copolymer that emits blue light)
- IT 75610-48-9 152811-37-5 176650-93-4 252273-95-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(light-harvesting antenna dendritic-side-groups on phenylacetylene copolymer that emits blue light)
- IT 252273-91-9P 252273-93-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(monomer; light-harvesting antenna dendritic-side-groups on phenylacetylene copolymer that emits blue light)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

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IT 252273-92-ODP, ethynylbenzene terminated 252273-94-2DP,
ethynylbenzene terminated 340232-49-7P 340232-50-0P

RL: PEP (Physical, engineering or chemical process); PRP (Properties);
SPN (Synthetic preparation); PREP (Preparation); PROC
(Process)

(light-harvesting antenna dendritic-side-groups on phenylacetylene copolymer that emits blue light)

RN 252273-92-0 HCAPLUS

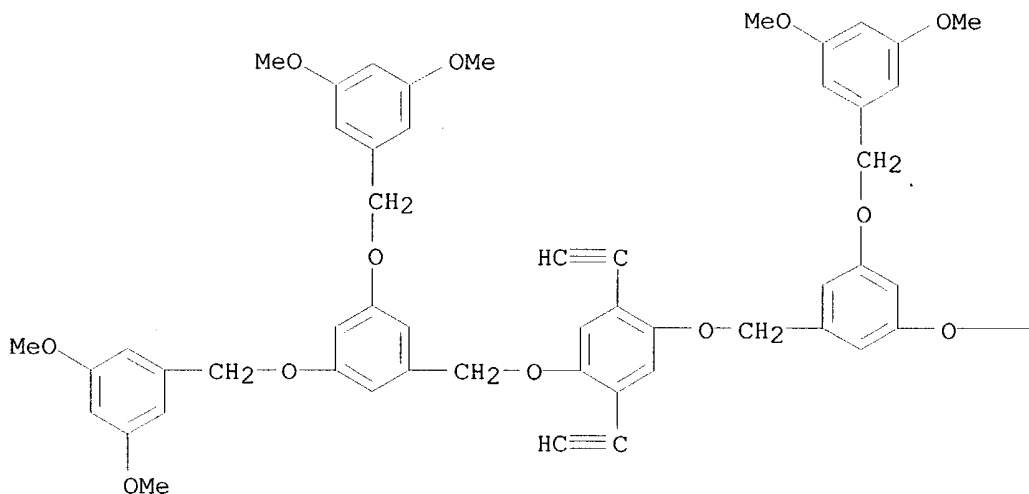
CN Benzene, 1,4-bis[[3,5-bis[(3,5-dimethoxyphenyl)methoxy]phenyl]methoxy]-2,5-diethynyl-, polymer with 1,4-diiodobenzene (9CI) (CA INDEX NAME)

CM 1

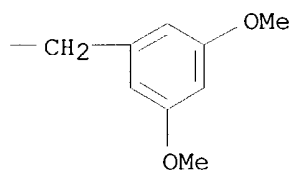
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CMF C60 H58 O14

PAGE 1-A



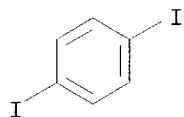
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CM 2

CRN 624-38-4

CMF C6 H4 I2



RN 252273-94-2 HCAPLUS

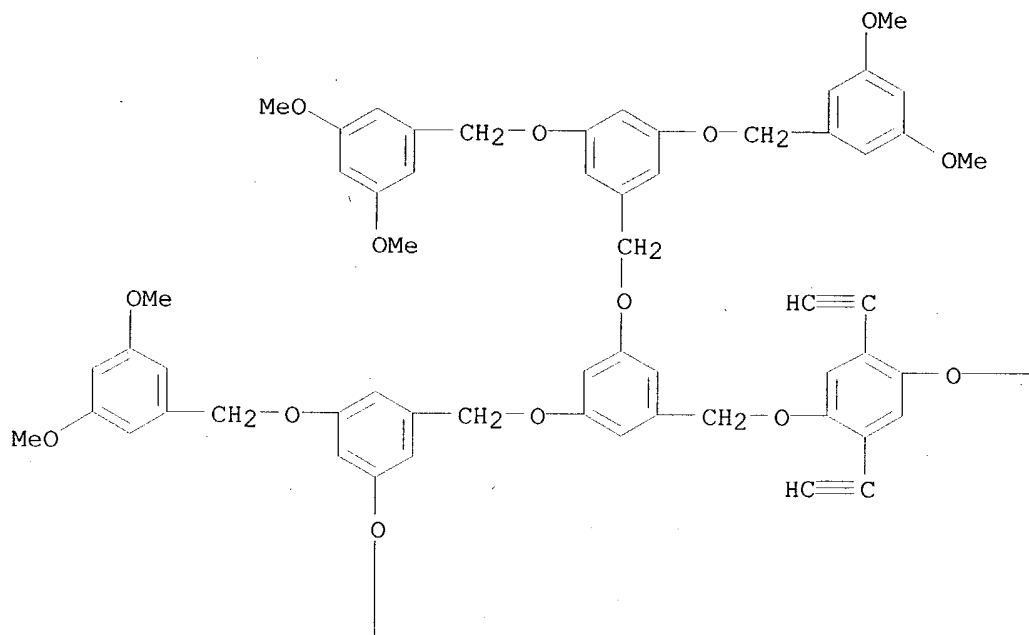
CN Benzene, 1,4-bis[[3,5-bis[[3,5-bis[(3,5-dimethoxyphenyl)methoxy]phenyl]methoxy]phenyl]methoxy]-2,5-diethynyl-, polymer with 1,4-diodobenzene (9CI)
(CA INDEX NAME)

CM 1

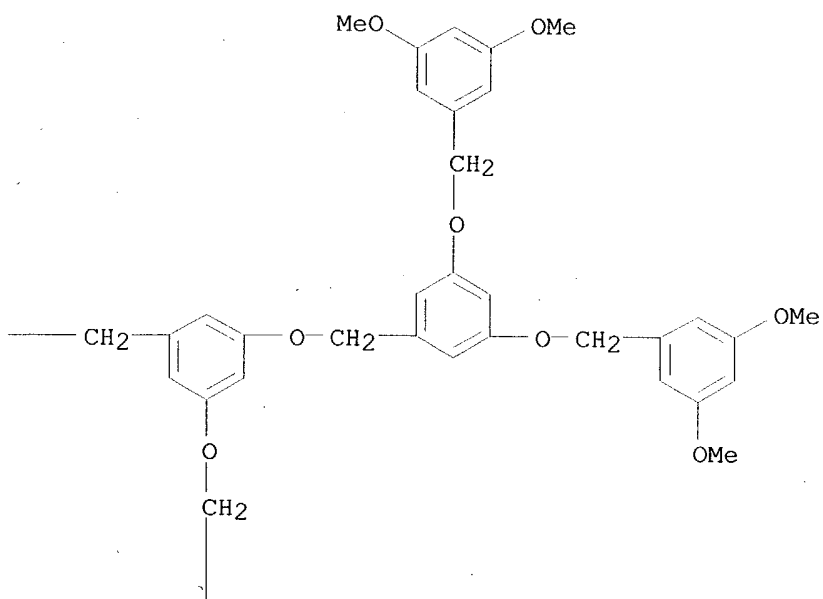
CRN 252273-93-1

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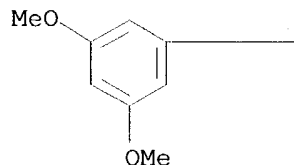
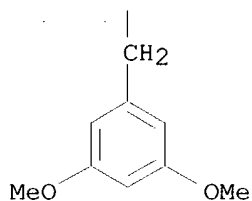
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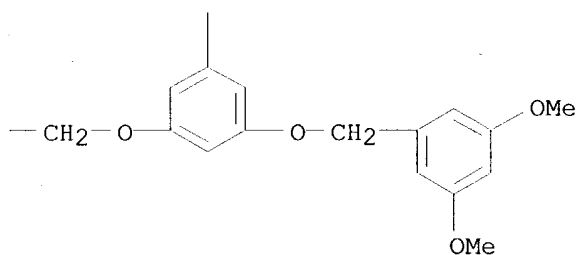
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PAGE 2-A



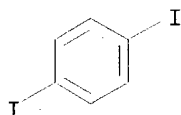
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CM 2

CRN 624-38-4

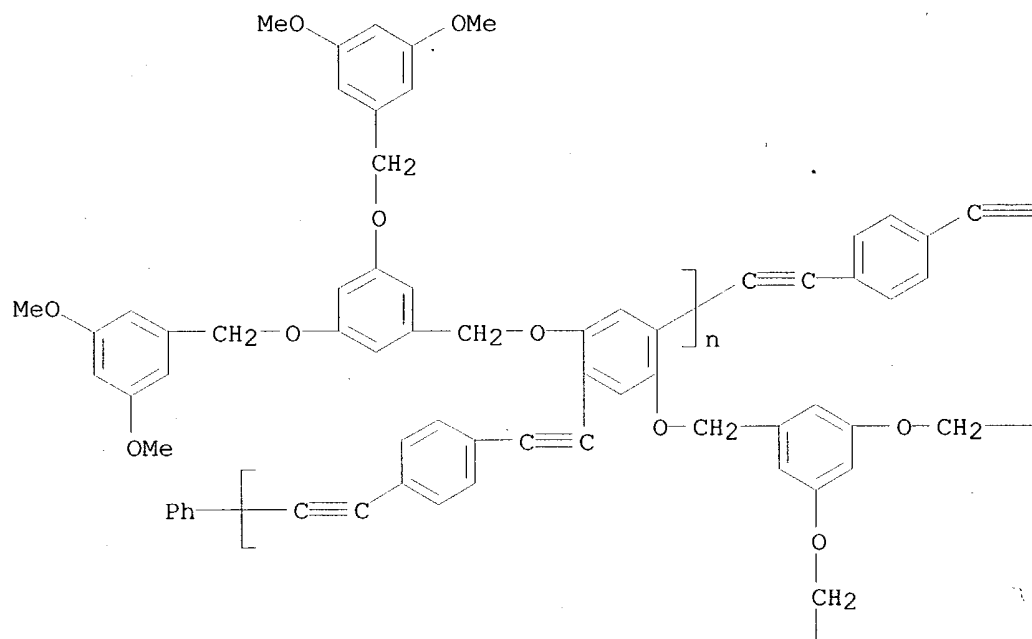
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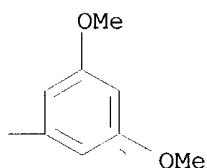
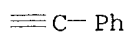
RN 340232-49-7 HCAPLUS

CN Poly[[2,5-bis[[3,5-bis[(3,5-dimethoxyphenyl)methoxy]phenyl]methoxy]-1,4-phenylene]-1,2-ethynediyl-1,4-phenylene-1,2-ethynediyl],
 .alpha.-[[4-(phenylethynyl)phenyl]ethynyl]-.omega.-phenyl- (9CI) (CA
 INDEX NAME)

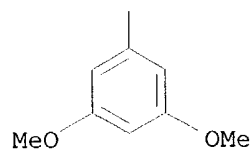
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PAGE 1-B



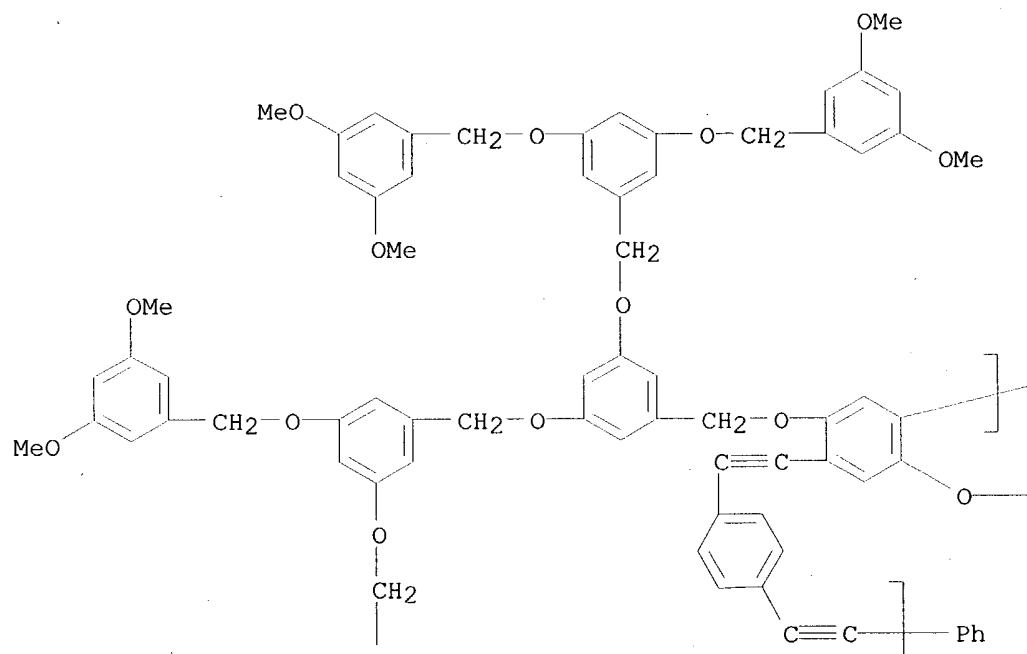
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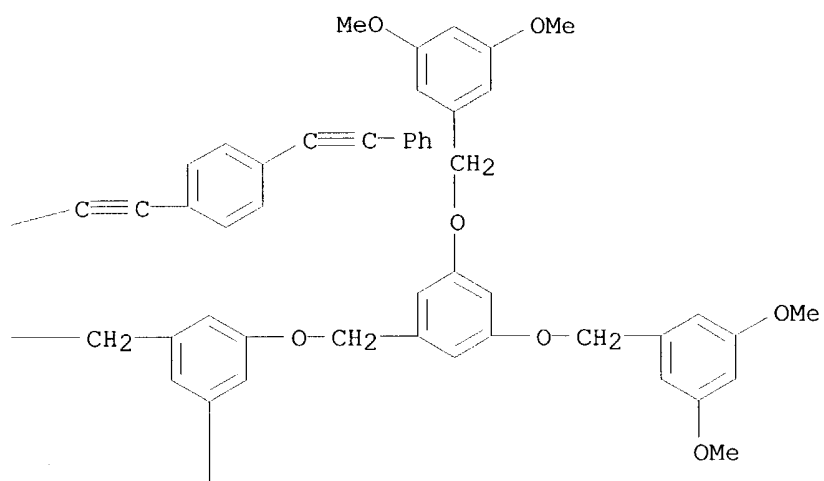
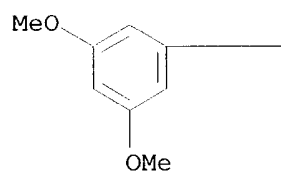
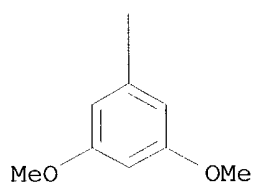
RN 340232-50-0 HCAPLUS

CN Poly[[2,5-bis[[3,5-bis[[3,5-bis[(3,5-dimethoxyphenyl)methoxy]phenyl]methoxy]phenyl]methoxy]-1,4-phenylene]-1,2-ethynediyl-1,4-phenylene-1,2-ethynediyl], .alpha.-[[4-(phenylethynyl)phenyl]ethynyl]-.omega.-phenyl-(9CI) (CA INDEX NAME)

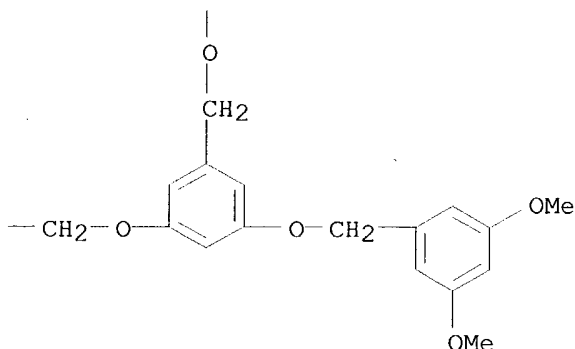
PAGE 1-A



PAGE 1-B

PAGE 2-A
n

PAGE 2-B



L26 ANSWER 19 OF 38 HCAPLUS COPYRIGHT 2002 ACS

AN 2000:616693 HCAPLUS

DN 133:194767

TI Highly luminescent poly(phenyleneethynylene)s having dendron side chains, luminescent polymer compositions containing them, and luminescent coatings and sheet moldings using the polymers

IN Aita, Takuzo; Nobu, Tourin; Sato, Takafumi; Kawa, Manabu

PA Mitsubishi Chemical Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08G061-02

ICS C08J007-04; C08L025-04; C08L033-00; C08L065-00; C08L069-00;
C09D005-22; C09K011-06

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 35, 37, 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000239360	A2	20000905	JP 1999-44247	19990223

AB The poly(phenyleneethynylenes) have arom. repeating unit-contg. dendrons at the focal points and are blended with amorphous polymers to give polymer compns. Sheet moldings are coated with luminescent coatings contg. the poly(phenyleneethynylenes). Thus, a reaction product of 1,4-dihydroxy-2,5-diethynylbenzene with 3,5-dihydroxybenzyl alc. dendrimer (having PhCH₂Br focal point) was polymd. with p-diiodobenzene at 50.degree. for 26 h and then with ethynylbenzene for 13 h to give a polymer with Mn 43,900, M2 277,600, which was sol. in THF with .lambda.max 280 and 432 nm to give luminescent cast films.

ST luminescent phenyleneethynylene polymer dendron side chain; benzyl ether dendrimer graft polyphenylene ethynylene luminescence; blend coating phenyleneethynylene polymer luminescence; cast film phenyleneethynylene polymer luminescence

IT Polycarbonates, uses
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
 (arom.; highly luminescent poly(phenyleneethynylene)s having dendron side chains for luminescent polymer compns., coatings, and sheet moldings)

IT Luminescent substances
 Plastic films

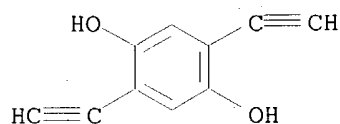
- (highly luminescent poly(phenyleneethynylene)s having dendron side chains for luminescent polymer compns., coatings, and sheet moldings)
- IT Polymer blends
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(highly luminescent poly(phenyleneethynylene)s having dendron side chains for luminescent polymer compns., coatings, and sheet moldings)
- IT Coating materials
(luminescent; highly luminescent poly(phenyleneethynylene)s having dendron side chains for luminescent polymer compns., coatings, and sheet moldings)
- IT Polyethers, uses
Polyethers, uses
Polyethers, uses
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyacetylene-, dendrimers, graft; highly luminescent poly(phenyleneethynylene)s having dendron side chains for luminescent polymer compns., coatings, and sheet moldings)
- IT Dendritic polymers
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyacetylene-polyethers, graft; highly luminescent poly(phenyleneethynylene)s having dendron side chains for luminescent polymer compns., coatings, and sheet moldings)
- IT Polyacetylenes, uses
Polyacetylenes, uses
Polyacetylenes, uses
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyether-, dendrimers, graft; highly luminescent poly(phenyleneethynylene)s having dendron side chains for luminescent polymer compns., coatings, and sheet moldings)
- IT **289621-80-3DP**, dimethoxybenzyl-terminated
RL: **IMF (Industrial manufacture)**; POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(dendritic; highly **luminescent** poly(phenyleneethynylene)s having dendron side chains for **luminescent** polymer compns., coatings, and sheet moldings)
- IT 75610-48-9P 99299-75-9P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(highly luminescent poly(phenyleneethynylene)s having dendron side chains for luminescent polymer compns., coatings, and sheet moldings)
- IT 9003-53-6, Polystyrene 9011-14-7, Poly(methyl methacrylate)
24936-68-3, Bisphenol A polycarbonate, sru, uses 25037-45-0, Bisphenol A polycarbonate
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(highly luminescent poly(phenyleneethynylene)s having dendron side chains for luminescent polymer compns., coatings, and sheet moldings)
- IT 1066-54-2, Trimethylsilylacetylene 13064-64-7, 1,4-Dihydroxy-2,5-diiodobenzene
RL: RCT (Reactant); RACT (Reactant or reagent)
(highly luminescent poly(phenyleneethynylene)s having dendron side chains for luminescent polymer compns., coatings, and sheet moldings)

IT 289621-80-3DP, dimethoxybenzyl-terminated
 RL: IMF (Industrial manufacture); POF (Polymer in formulation);
 PRP (Properties); TEM (Technical or engineered material use); PREP
 (Preparation); USES (Uses)
 (dendritic; highly **luminescent** poly(phenyleneethynylene)s
 having dendron side chains for **luminescent** polymer compns.,
 coatings, and sheet moldings)

RN 289621-80-3 HCAPLUS
 CN 1,3-Benzenediol, 5-(hydroxymethyl)-, polymer with 2,5-diethynyl-1,4-
 benzenediol and 1,4-diiodobenzene, graft (9CI) (CA INDEX NAME)

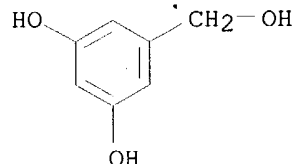
CM 1

CRN 75610-48-9
 CMF C10 H6 O2



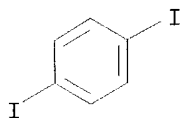
CM 2

CRN 29654-55-5
 CMF C7 H8 O3



CM 3

CRN 624-38-4
 CMF C6 H4 I2



L26 ANSWER 20 OF 38 HCAPLUS COPYRIGHT 2002 ACS
 AN 2000:593964 HCAPLUS
 DN 133:310236
 TI Synthesis of stable and luminescent hyperbranched poly(alkenephenylenes)
 via copolycyclotrimerization of diynes and monoynes
 AU Xu, Kaitian; Peng, Han; Lee, Priscilla P. S.; Dong, Yuping; Tang, Ben
 Zhong
 CS Department of Chemistry, Hong Kong University of Science and Technology

- Clear Water Bay, Hong Kong, Peop. Rep. China
- SO Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (2000), 41(2), 1318-1319
CODEN: ACPPAY; ISSN: 0032-3934
- PB American Chemical Society, Division of Polymer Chemistry
- DT Journal
- LA English
- CC 35-7 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 36, 73
- AB Completely sol. polymers were prepd. via polycyclotrimerization of diacetylene with monoacetylene, using TaCl₅-Ph₄Sn as catalyst and toluene as solvent. Incorporation of a monoacetylene moiety into the polymers led to improved soly. and induced strong fluorescence. 1,7-Octadiyne was polycyclotrimerized with a carbazole-contg. monoacetylene, giving copolymers with strong fluorescence emission and high thermal stability.
- ST diacetylene monoacetylene polymn cyclotrimerization hyperbranched polyalkylenephenylene; octadiyne carbazole monoacetylene cyclotrimerization polyacetylene fluorescence
- IT Polymerization
(cyclotrimerization; prepn. of sol. and stable and luminescent hyperbranched poly(alkenephenylenes) via copolycyclotrimerization of diynes and monoynes)
- IT Polyacetylenes, preparation
Polyacetylenes, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(dendrimers; prepn. of sol. and stable and luminescent hyperbranched poly(alkenephenylenes) via copolycyclotrimerization of diynes and monoynes)
- IT Polymer chains
(hyperbranched; prepn. of sol. and stable and luminescent hyperbranched poly(alkenephenylenes) via copolycyclotrimerization of diynes and monoynes)
- IT Dendritic polymers
Dendritic polymers
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyacetylenes; prepn. of sol. and stable and luminescent hyperbranched poly(alkenephenylenes) via copolycyclotrimerization of diynes and monoynes)
- IT Cyclotrimerization
Fluorescence
Luminescence
Thermal stability
(prepn. of sol. and stable and luminescent hyperbranched poly(alkenephenylenes) via copolycyclotrimerization of diynes and monoynes)
- IT 55464-87-4P, 1,8-Nonadiyne-1-octyne copolymer **264628-07-1P**,
1,8-Nonadiyne-phenylacetylene copolymer 302542-22-9P,
1,7-Octadiyne-1-octyne copolymer 302542-25-2P, 1,9-Decadiyne-1-octyne
copolymer **302542-27-4P**, 1,7-Octadiyne-phenylacetylene copolymer
302542-29-6P, 1,7-Octadiyne-diphenylacetylene copolymer
302542-30-9P, Diphenylacetylene-1,8-nonadiyne copolymer
302542-33-2P
RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)
(prepn. of sol. and stable and luminescent hyperbranched poly(alkenephenylenes) via copolycyclotrimerization of diynes and monoynes)
- RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
- RE
- (1) Tang, B; ACS Symposium Series 760 in press 2000

(2) Xu, K; Chin J Polym Sci 1999, V17(4), P397 HCAPLUS

(3) Xu, K; Polym Prepr 1999, V40(2), P820 HCAPLUS

(4) Xu, K; Polym Prepr 2000, V41(1), P500 HCAPLUS

IT 264628-07-1P, 1,8-Nonadiyne-phenylacetylene copolymer
 302542-27-4P, 1,7-Octadiyne-phenylacetylene copolymer
 302542-29-6P, 1,7-Octadiyne-diphenylacetylene copolymer
 302542-30-9P, Diphenylacetylene-1,8-nonadiyne copolymer

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(prepn. of sol. and stable and luminescent hyperbranched poly(alkenephenylenes) via copolycyclotrimerization of diynes and monoynes)

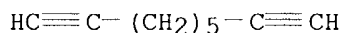
RN 264628-07-1 HCAPLUS

CN Benzene, ethynyl-, polymer with 1,8-nonadiyne (9CI) (CA INDEX NAME)

CM 1

CRN 2396-65-8

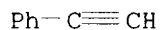
CMF C9 H12



CM 2

CRN 536-74-3

CMF C8 H6



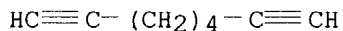
RN 302542-27-4 HCAPLUS

CN Benzene, ethynyl-, polymer with 1,7-octadiyne (9CI) (CA INDEX NAME)

CM 1

CRN 871-84-1

CMF C8 H10



CM 2

CRN 536-74-3

CMF C8 H6

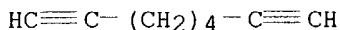


RN 302542-29-6 HCAPLUS

CN Benzene, 1,1'-(1,2-ethynediyl)bis-, polymer with 1,7-octadiyne (9CI) (CA INDEX NAME)

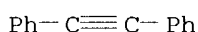
CM 1

CRN 871-84-1
CMF C8 H10



CM 2

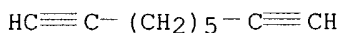
CRN 501-65-5
CMF C14 H10



RN 302542-30-9 HCAPLUS
CN Benzene, 1,1'-(1,2-ethynediyl)bis-, polymer with 1,8-nonadiyne (9CI) (CA INDEX NAME)

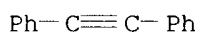
CM 1

CRN 2396-65-8
CMF C9 H12



CM 2

CRN 501-65-5
CMF C14 H10



L26 ANSWER 21 OF 38 HCAPLUS COPYRIGHT 2002 ACS
AN 2000:593940 HCAPLUS
DN 133:322249
TI Synthesis and optical properties of naphthalene-containing conjugated polymers
AU Peng, Zhonghua; Pan, Yongchun
CS Department of Chemistry, University of Missouri-Kansas City, Kansas City, MO, 64110, USA
SO Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (2000), 41(2), 1273-1274
CODEN: ACPPAY; ISSN: 0032-3934
PB American Chemical Society, Division of Polymer Chemistry
DT Journal
LA English
CC 35-7 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 36, 73
AB Four conjugated polymers contg. naphthalene in the backbone were

synthesized by the Pd-catalyzed Heck coupling reaction and by the Sonogashira reaction. The monomers were prepd. from diiodonaphthalenes which can be easily converted to divinyl naphthalenes by the Heck coupling reaction or to diethynyl naphthalenes by the Sonogashira reaction. The diiodonaphthalenes in turn were obtained by direct iodination by lithiation of the dibromides followed by treatment with I; the diiodonaphthalenes were also suitable monomers for coupling polymn. with vinyl naphthalenes or ethynylnaphthalenes. The two polymers contg. ethynyl bonds in the backbone exhibit rather strong aggregation in the solid state that results in significant quenching of photoluminescence (PL). The polymers with vinyl bonds in the backbone, exhibit high solid-state PL quantum efficiency. These polymer systems are of interest for LED applications.

- ST naphthalene ethynyl conjugated polymer prepn optical property; vinyl naphthalene conjugated polymer prepn photoluminescence; coupling polymn iodonaphthalene vinyl naphthalene ethynylnaphthalene photoluminescent polymer; polynaphthalenylvinylene polyacetylene naphthalene prepn aggregation photoluminescence quenching
- IT Coupling reaction
(Heck and Sonogashira; prepn. of monomers and coupling polymn. and fluorescence and luminescence efficiency of naphthalene-contg. polyarylenevinylene and polyacetylene conjugated polymers)
- IT Polymers, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(conjugated; prepn. of monomers and coupling polymn. and fluorescence and luminescence efficiency of naphthalene-contg. polyarylenevinylene and polyacetylene conjugated polymers)
- IT Polymerization
(coupling, Heck and Sonogashira; prepn. of monomers and coupling polymn. and fluorescence and luminescence efficiency of naphthalene-contg. polyarylenevinylene and polyacetylene conjugated polymers)
- IT Poly(arylenealkenylenes)
Polyacetylenes, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(naphthalene-contg.; prepn. of monomers and coupling polymn. and fluorescence and luminescence efficiency of naphthalene-contg. polyarylenevinylene and polyacetylene conjugated polymers)
- IT Fluorescence
Luminescence quenching
Self-association
UV and visible spectra
(prepn. of monomers and coupling polymn. and fluorescence and luminescence efficiency of naphthalene-contg. polyarylenevinylene and polyacetylene conjugated polymers)
- IT 14221-01-3, Palladium tetrakis(triphenylphosphine)
RL: CAT (Catalyst use); USES (Uses)
(Heck coupling catalyst; prepn. of monomers and coupling polymn. and fluorescence and luminescence efficiency of naphthalene-contg. polyarylenevinylene and polyacetylene conjugated polymers)
- IT 3375-31-3, Diacetatopalladium
RL: CAT (Catalyst use); USES (Uses)
(Heck coupling polymn. catalyst; prepn. of monomers and coupling polymn. and fluorescence and luminescence efficiency of naphthalene-contg. polyarylenevinylene and polyacetylene conjugated polymers)
- IT 7681-65-4, Copper iodide (CuI) 13965-03-2, Dichlorobis(triphenylphosphine)palladium
RL: CAT (Catalyst use); USES (Uses)
(Sonogashira coupling polymn. catalyst; prepn. of monomers and coupling

- polymn. and fluorescence and luminescence efficiency of naphthalene-contg. polyarylenevinylene and polyacetylene conjugated polymers)
- IT 6163-58-2
RL: CAT (Catalyst use); USES (Uses)
(catalyst ligand; prepn. of monomers and coupling polymn. and fluorescence and luminescence efficiency of naphthalene-contg. polyarylenevinylene and polyacetylene conjugated polymers)
- IT 269407-52-5P 290331-43-0P
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(intermediate and monomer; prepn. of monomers and coupling polymn. and fluorescence and luminescence efficiency of naphthalene-contg. polyarylenevinylene and polyacetylene conjugated polymers)
- IT 290331-45-2P 290331-46-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(monomer; prepn. of monomers and coupling polymn. and fluorescence and luminescence efficiency of naphthalene-contg. polyarylenevinylene and polyacetylene conjugated polymers)
- IT 290331-44-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(monomer; prepn. of monomers and coupling polymn. and fluorescence and luminescence efficiency of naphthalene-contg. polyarylenevinylene and polyacetylene conjugated polymers)
- IT 269407-53-6P 269407-54-7P 269407-55-8P 269407-56-9P
302907-21-7P 302907-22-8P 302907-23-9P 302907-24-0P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. of monomers and coupling polymn. and fluorescence and luminescence efficiency of naphthalene-contg. polyarylenevinylene and polyacetylene conjugated polymers)
- IT 1066-54-2, Trimethylsilylacetylene 7486-35-3, Vinyltributyltin
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of monomers and coupling polymn. and fluorescence and luminescence efficiency of naphthalene-contg. polyarylenevinylene and polyacetylene conjugated polymers)
- RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD
- RE
- (1) Anon; Organic Syntheses 1946, V2, P343
 - (2) Anon; Organic Synthesis 1993, V8, P586
 - (3) Bachki, A; Tetrahedron 1994, V50(17), P5139 HCAPLUS
 - (4) Bao, Z; ACS Symp Ser 1999, V735, P244 HCAPLUS
 - (5) Bao, Z; Macromolecules 1993, V26, P5281 HCAPLUS
 - (6) Carreno, M; J Org Chem 1995, V60(16), P5328 HCAPLUS
 - (7) Chang, C; J Org Chem 1999, V64, P5603 HCAPLUS
 - (8) Demas, J; J Phys Chem 1971, V75, P991
 - (9) Heck, R; Organic Reactions 1982, V27, P345 HCAPLUS
 - (10) Hide, F; Acc Chem Res 1997, V30, P430 HCAPLUS
 - (11) Kajigaeshi, S; Chem Lett 1987, V11, P2109
 - (12) Kraft, A; Angew Chem Int Ed Eng 1998, V37, P402
 - (13) Orito, K; Synthesis 1995, V10, P1273
 - (14) Pschirer, N; Chem Commun 2000, P85 HCAPLUS
 - (15) Sankaran, B; Polym Prepr 1998, V39(1), P157 HCAPLUS
 - (16) Takahashi, S; Synthesis 1980, V8, P627
 - (17) Yang, S; Tetrahedron Lett 1999, V40(33), P6051 HCAPLUS
 - (18) Yusubov, M; Bull Korean Chem Soc 1998, V19(4), P400 HCAPLUS
- IT 269407-55-8P 269407-56-9P 302907-23-9P
302907-24-0P
RL: PRP (Properties); SPN (Synthetic preparation); PREP

(Preparation)

(prepn. of monomers and coupling polymn. and fluorescence and
luminescence efficiency of naphthalene-contg.
polyarylenevinylene and polyacetylene conjugated polymers)

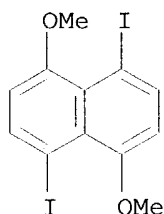
RN 269407-55-8 HCAPLUS

CN Naphthalene, 1,5-diiodo-4,8-dimethoxy-, polymer with 1,4-bis(dodecyloxy)-
2,5-diethynylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 269407-52-5

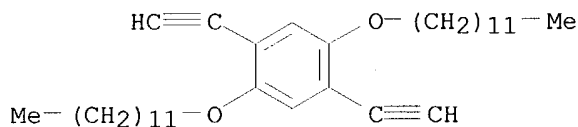
CMF C12 H10 I2 O2



CM 2

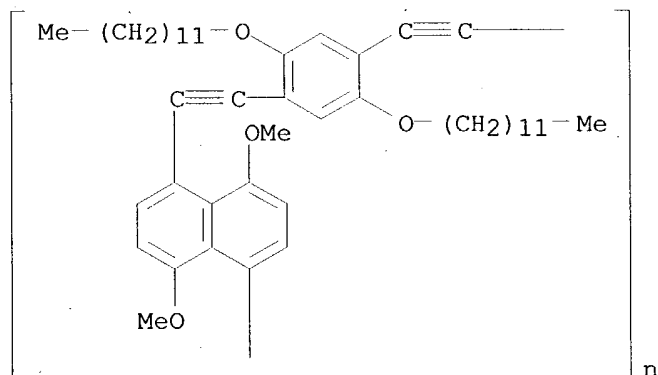
CRN 152270-00-3

CMF C34 H54 O2



RN 269407-56-9 HCAPLUS

CN Poly[(4,8-dimethoxy-1,5-naphthalenediyl)-1,2-ethynediyl[2,5-
bis(dodecyloxy)-1,4-phenylene]-1,2-ethynediyl] (9CI) (CA INDEX NAME)



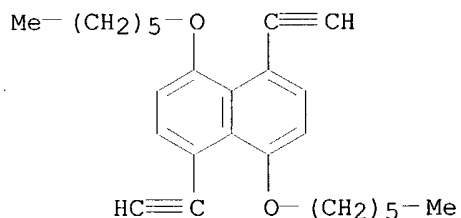
RN 302907-23-9 HCAPLUS

CN Naphthalene, 1,5-diethynyl-4,8-bis(hexyloxy)-, polymer with
1,5-diiodo-4,8-dimethoxynaphthalene (9CI) (CA INDEX NAME)

CM 1

CRN 290331-45-2

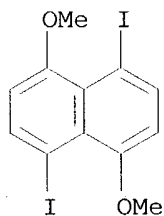
CMF C26 H32 O2



CM 2

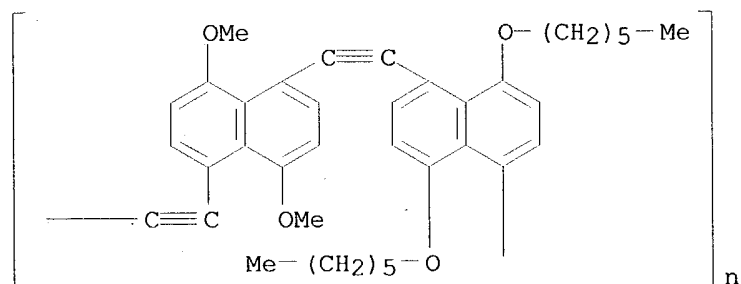
CRN 269407-52-5

CMF C12 H10 I2 O2



RN 302907-24-0 HCAPLUS

CN Poly[[4,8-bis(hexyloxy)-1,5-naphthalenediyl]-1,2-ethynediyl(4,8-dimethoxy-
1,5-naphthalenediyl)-1,2-ethynediyl] (9CI) (CA INDEX NAME)



L26 ANSWER 22 OF 38 HCAPLUS COPYRIGHT 2002 ACS

AN 2000:377758 HCAPLUS

DN 133:151004

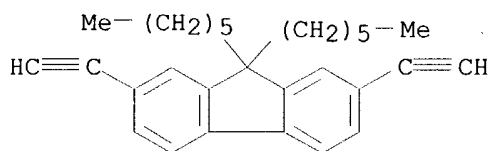
TI Synthesis and luminescent characteristics of fluorene-based polymers
containing diacetylene unit

AU Cho, H. N.; Hong, J. M.; Moon, D. K.; Kim, C. Y.

KATHLEEN FULLER EIC 1700/LAW LIBRARY 308-4290

- CS Polymer Materials Laboratory, KIST, Seoul, 130-650, S. Korea
 SO Synthetic Metals (2000), 111-112, 429-431
 CODEN: SYMEDZ; ISSN: 0379-6779
 PB Elsevier Science S.A.
 DT Journal
 LA English
 CC 35-4 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 36, 73
 AB Diacetylene-contg. polymers for light-emitting diodes were prepd. by CuCl catalyzed oxidative polymn. of the corresponding monomers, to obtain poly(9,9'-di-n-hexyl-2,7-diethynylfluorene) (PDHDEF) or poly[2,7-bis(p-propargyloxystyryl)-9,9'-di-n-hexylfluorene] [PBPSDHF]. The resulting polymers with high luminescence and high mol. wt. were sol. in common org. solvents such as chloroform, THF, toluene, etc., and could be easily cast to afford free standing films. The PDHDEF analog has excellent mech. strength (tensile strength of 520 MPa, elongation at break 7%), was stable up to 300.degree. without wt. loss, and was easily cross-linked by UV light or thermal treatment. The optical absorption spectrum of the solid film showed a peak at 390 nm while PL spectrum gave a main peak at 440 nm with two shoulder peaks at 470 and 520 nm. The PDHDEF polymer also showed slight birefringence at 150.degree. is indicative of liq. crystallinity of the conjugated polymer and a bluish white light emission was obsd. upon excitation at 365 nm.
 ST fluorene based diacetylene conjugated polymer prepn luminescence; birefringence liq crystallinity polydiacetylene fluorene crosslinking; propargyloxystyryl hexylfluorene polyacetylene prepn photoluminescence
 IT Polymers, preparation
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (conjugated; prepn. and mech. strength and thermal stability of luminescent fluorene-based polydiacetylenes)
 IT Expansion
 (elongation at break; prepn. and mech. strength and thermal stability of luminescent fluorene-based polydiacetylenes)
 IT Polyethers, preparation
 Polyethers, preparation
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polydiacetylene-; prepn. and mech. strength and thermal stability of luminescent fluorene-based polydiacetylenes)
 IT Polydiacetylenes
 Polydiacetylenes
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polyether-; prepn. and mech. strength and thermal stability of luminescent fluorene-based polydiacetylenes)
 IT Birefringence
 Liquid crystals, polymeric
 Luminescence
 Optical absorption
 Tensile strength
 (prepn. and mech. strength and thermal stability of luminescent fluorene-based polydiacetylenes)
 IT Polydiacetylenes
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (prepn. and mech. strength and thermal stability of luminescent fluorene-based polydiacetylenes)
 IT Crosslinking
 (thermal; prepn. and mech. strength and thermal stability of luminescent fluorene-based polydiacetylenes)
 IT 7758-89-6, Copper chloride (CuCl)
 RL: CAT (Catalyst use); USES (Uses)
 (polymn. catalyst; prepn. and mech. strength and thermal stability of

luminescent fluorene-based polydiacetylenes)
 IT 285142-99-6P **287099-95-0P**
 RL: PRP (Properties); **SPN (Synthetic preparation); PREP**
(Preparation)
 (prepn. and mech. strength and thermal stability of **luminescent**
 fluorene-based polydiacetylenes)
 RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
 RE
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 IT **287099-95-0P**
 RL: PRP (Properties); **SPN (Synthetic preparation); PREP**
(Preparation)
 (prepn. and mech. strength and thermal stability of **luminescent**
 fluorene-based polydiacetylenes)
 RN 287099-95-0 HCAPLUS
 CN 9H-Fluorene, 2,7-diethynyl-9,9-dihexyl-, homopolymer (9CI) (CA INDEX
 NAME)
 CM 1
 CRN 220625-90-1
 CMF C29 H34



L26 ANSWER 23 OF 38 HCAPLUS COPYRIGHT 2002 ACS
 AN 2000:235239 HCAPLUS
 DN 133:5186
 TI Conjugated polymers with 2,2'-bipyridine and diethynylenebenzene units:
 absorption and luminescence properties
 AU Grummt, U.-W.; Birckner, E.; Klemm, E.; Egbe, D. A. M.; Heise, B.
 CS Institut für Physikalische Chemie der Friedrich-Schiller Universität Jena,
 Jena, D-07743, Germany
 SO Journal of Physical Organic Chemistry (2000), 13(2), 112-126
 CODEN: JPOCEE; ISSN: 0894-3230
 PB John Wiley & Sons Ltd.
 DT Journal
 LA English
 CC 36-5 (Physical Properties of Synthetic High Polymers)
 Section cross-reference(s): 73
 AB Alternating oligomers and polymers consisting of 2,2'-bipyridine and
 diethynylenebenzene units and corresponding model compds. were synthesized
 and investigated in dil. solns. by absorption spectroscopy and by
 stationary and time-resolved emission spectroscopy. The strictly linear
 (rod-like) .pi.-chain oligomers/polymers were compared with the angularly
 linked oligomers/polymers and with related model compds. The model
 compds. which already show the essential spectroscopic properties of the
 oligomers/polymers consist of three (hetero)aroms. linearly connected by

two diethynylene groups. These models exhibit fluorescence quantum yields close to unity and short fluorescence decay times around 1 ns. Fluorescence anisotropy and rotational relaxation times are consistent with the Stokes-Einstein equation and the Perrin equation. The absorption and emission spectra of the polymers and their radiative rate consts. detd. by fluorescence quantum yield and lifetime and according to the Strickler/Berg equation show a conjugation length of one to two repetition units. The conjugation along the chain is stronger in linear than in angular polymers and stronger in alkoxy-substituted than in unsubstituted polymers. In angular polymers at least two different emitting segments were found. The shortened mean lifetimes and the reduced fluorescence quantum yields and anisotropies of the oligomers/polymers indicate an addnl. radiationless deactivation channel which is opened by energy migration along the chain. Rates of energy transfer calcd. for linear and angular polymers correlate with rates of radiationless deactivation.

ST bipyrindine diethynylenebenzene copolymer luminescence optical absorption
IT Energy transfer
(Foerster; optical absorption and luminescence of conjugated polymers with 2,2'-bipyrindine and diethynylenebenzene units)

IT Emission spectra
Fluorescence
Fluorescence decay
Luminescence
Optical absorption
(optical absorption and luminescence of conjugated polymers with 2,2'-bipyrindine and diethynylenebenzene units)

IT Polydiacetylenes
RL: PRP (Properties)
(optical absorption and luminescence of conjugated polymers with 2,2'-bipyrindine and diethynylenebenzene units)

IT 158525-01-0P 189497-27-6P 219755-01-8P 271250-99-8P 271251-00-4P
271251-01-5P 271251-02-6P 271251-03-7P 271251-04-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(model compd.; optical absorption and luminescence of conjugated polymers with 2,2'-bipyrindine and diethynylenebenzene units)

IT 219754-97-9P 219754-98-0P 219754-99-1P
219755-00-7P 271251-05-9P, 5,5'-Dibromo-2,2'-bipyrindine-1,4-diethynylbenzene copolymer 271251-06-0P 271251-07-1P
, 4,4'-Dibromo-2,2'-bipyrindine-1,4-diethynylbenzene copolymer
271251-08-2P 271251-09-3P 271251-10-6P
271251-11-7P 271251-12-8P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(optical absorption and luminescence of conjugated polymers with 2,2'-bipyrindine and diethynylenebenzene units)

IT 536-74-3 626-55-1, 3-Bromopyridine 935-14-8, 1,4-Diethynylbenzene
1120-87-2, 4-Bromopyridine 14162-95-9, 4-Bromo-2,2'-bipyrindine
18511-71-2, 4,4'-Dibromo-2,2'-bipyrindine 153033-27-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(optical absorption and luminescence of conjugated polymers with 2,2'-bipyrindine and diethynylenebenzene units)

IT 271251-13-9P
RL: BYP (Byproduct); PREP (Preparation)
(side-product; optical absorption and luminescence of conjugated polymers with 2,2'-bipyrindine and diethynylenebenzene units)

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- IT 219754-97-9P 219754-98-0P 219754-99-1P
 219755-00-7P 271251-05-9P, 5,5'-Dibromo-2,2'-bipyridine-
 1,4-diethynylbenzene copolymer 271251-06-0P 271251-07-1P
 , 4,4'-Dibromo-2,2'-bipyridine-1,4-diethynylbenzene copolymer
 271251-08-2P 271251-09-3P 271251-10-6P
 271251-11-7P 271251-12-8P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP

(Preparation)

(optical absorption and **luminescence** of conjugated polymers with 2,2'-bipyridine and diethynylenebenzene units)

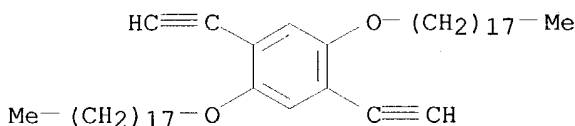
RN 219754-97-9 HCAPLUS

CN 2,2'-Bipyridine, 5,5'-dibromo-, polymer with 1,4-diethynyl-2,5-bis(octadecyloxy)benzene (9CI) (CA INDEX NAME)

CM 1

CRN 128424-46-4

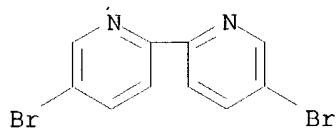
CMF C46 H78 O2



CM 2

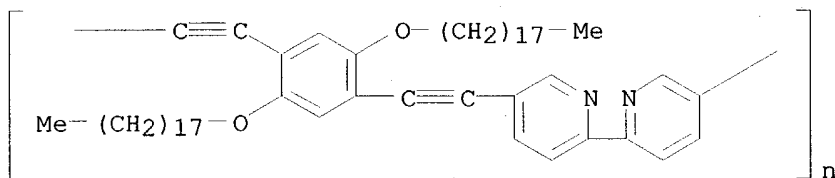
CRN 15862-18-7

CMF C10 H6 Br2 N2



RN 219754-98-0 HCAPLUS

CN Poly[[2,2'-bipyridine]-5,5'-diyl-1,2-ethynediyl[2,5-bis(octadecyloxy)-1,4-phenylene]-1,2-ethynediyl] (9CI) (CA INDEX NAME)



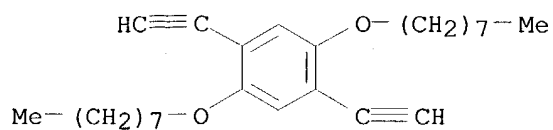
RN 219754-99-1 HCAPLUS

CN 2,2'-Bipyridine, 5,5'-dibromo-, polymer with 1,4-diethynyl-2,5-bis(octyloxy)benzene (9CI) (CA INDEX NAME)

CM 1

CRN 153033-27-3

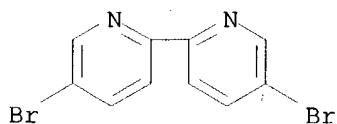
CMF C26 H38 O2



CM 2

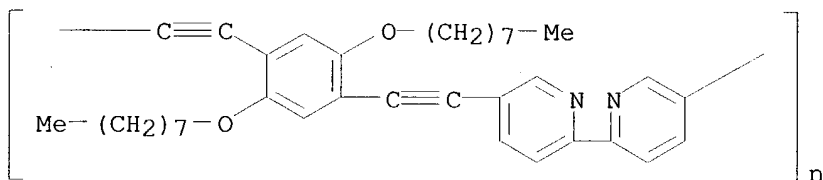
CRN 15862-18-7

CMF C10 H6 Br2 N2



RN 219755-00-7 HCAPLUS

CN Poly[[2,2'-bipyridine]-5,5'-diyl-1,2-ethynediyl[2,5-bis(octyloxy)-1,4-phenylene]-1,2-ethynediyl] (9CI) (CA INDEX NAME)



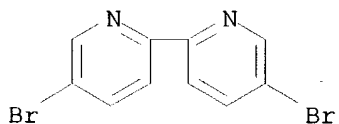
RN 271251-05-9 HCAPLUS

CN 2,2'-Bipyridine, 5,5'-dibromo-, polymer with 1,4-diethynylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 15862-18-7

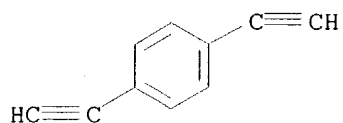
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CM 2

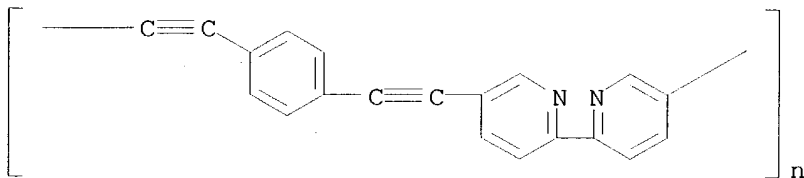
CRN 935-14-8

CMF C10 H6



RN 271251-06-0 HCAPLUS

CN Poly([2,2'-bipyridine]-5,5'-diyl-1,2-ethynediyl-1,4-phenylene-1,2-ethynediyl) (9CI) (CA INDEX NAME)



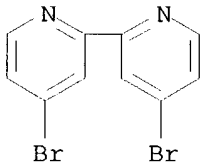
RN 271251-07-1 HCAPLUS

CN 2,2'-Bipyridine, 4,4'-dibromo-, polymer with 1,4-diethynylbenzene (9CI)
(CA INDEX NAME)

CM 1

CRN 18511-71-2

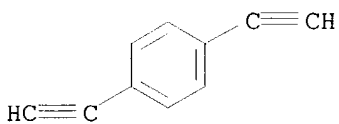
CMF C10 H6 Br2 N2



CM 2

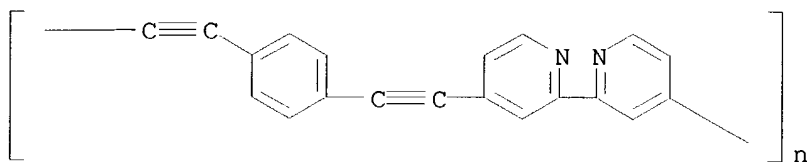
CRN 935-14-8

CMF C10 H6



RN 271251-08-2 HCAPLUS

CN Poly([2,2'-bipyridine]-4,4'-diyl-1,2-ethynediyl-1,4-phenylene-1,2-ethynediyl) (9CI) (CA INDEX NAME)

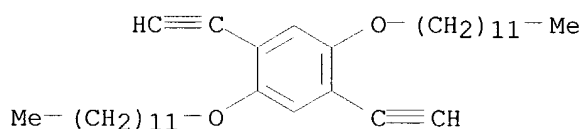


RN 271251-09-3 HCAPLUS
 CN 2,2'-Bipyridine, 4,4'-dibromo-, polymer with 1,4-bis(dodecyloxy)-2,5-diethynylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 152270-00-3

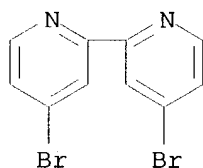
CMF C34 H54 O2



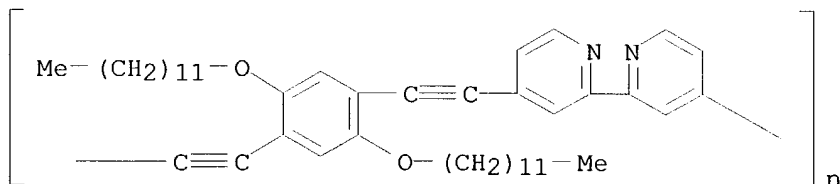
CM 2

CRN 18511-71-2

CMF C10 H6 Br2 N2



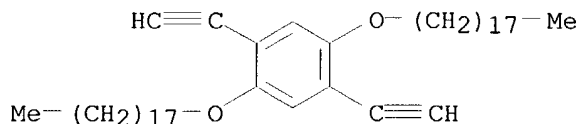
RN 271251-10-6 HCAPLUS
 CN Poly[[2,2'-bipyridine]-4,4'-diyl-1,2-ethynediyl[2,5-bis(dodecyloxy)-1,4-phenylene]-1,2-ethynediyl] (9CI) (CA INDEX NAME)



RN 271251-11-7 HCAPLUS
 CN 2,2'-Bipyridine, 4,4'-dibromo-, polymer with 1,4-diethynyl-2,5-bis(octadecyloxy)benzene (9CI) (CA INDEX NAME)

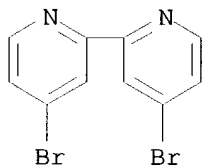
CM 1

CRN 128424-46-4
CMF C46 H78 O2

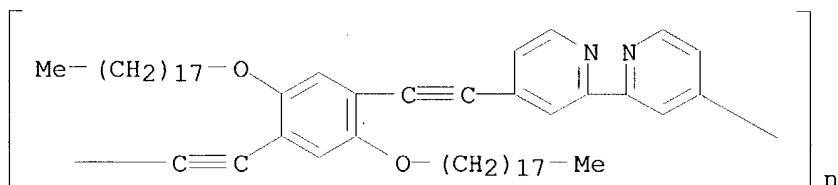


CM 2

CRN 18511-71-2
CMF C10 H6 Br2 N2



RN 271251-12-8 HCAPLUS
CN Poly[[2,2'-bipyridine]-4,4'-diyl-1,2-ethynediyl[2,5-bis(octadecyloxy)-1,4-phenylene]-1,2-ethynediyl] (9CI) (CA INDEX NAME)



L26 ANSWER 24 OF 38 HCAPLUS COPYRIGHT 2002 ACS
AN 2000:126873 HCAPLUS
DN 132:309007
TI Synthesis and light-emitting properties of C60-containing poly(1-phenyl-1-butyne)s
AU Xu, H.; Sun, Q.; Pui-Sze Lee, P.; Kwok, H. S.; Tang, B. Z.
CS Department of Chemistry, Hong Kong University of Science & Technology, Clear Water Bay, Kowloon, Hong Kong
SO Thin Solid Films (2000), 363(1,2), 143-145
CODEN: THSFAP; ISSN: 0040-6090
PB Elsevier Science S.A.
DT Journal
LA English
CC 37-3 (Plastics Manufacture and Processing)
AB While WC16-Ph4Sn is a poor catalyst for the polymn. of 1-phenyl-1-butyne (PB) at room temp., it effectively polymerizes PB in the presence of C60, giving high mol. wt. polymers in high yields. The polymers are sol. in common solvents such as THF and chloroform, and spectroscopic anal.

reveals that C60 has copolymerized with PB. Thus, C60 plays the dual roles of comonomer and cocatalyst in the acetylene polymerization. While it has often been reported that C60 quenches photoluminescence (PL) of conjugated copolymers, the C60-containing polyacetylene emits strong blue light, whose intensity is about two times higher than that of the PL of the parent PPB.

ST C60 phenylbutyne copolymer light emitting

IT Luminescence

(synthesis and light-emitting properties of C60-containing poly(1-phenyl-1-butyne)s)

IT Polyacetylenes, preparation

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(synthesis and light-emitting properties of C60-containing poly(1-phenyl-1-butyne)s)

IT 260369-49-1P, Fullerene C60-1-Phenyl-1-butyne copolymer

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(synthesis and light-emitting properties of C60-containing poly(1-phenyl-1-butyne)s)

RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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- (2) Bunker, K; Macromolecules 1995, V28, P7959
- (3) Cao, T; Macromolecules 1995, V28, P3741 HCAPLUS
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IT 260369-49-1P, Fullerene C60-1-Phenyl-1-butyne copolymer

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(synthesis and light-emitting properties of C60-containing poly(1-phenyl-1-butyne)s)

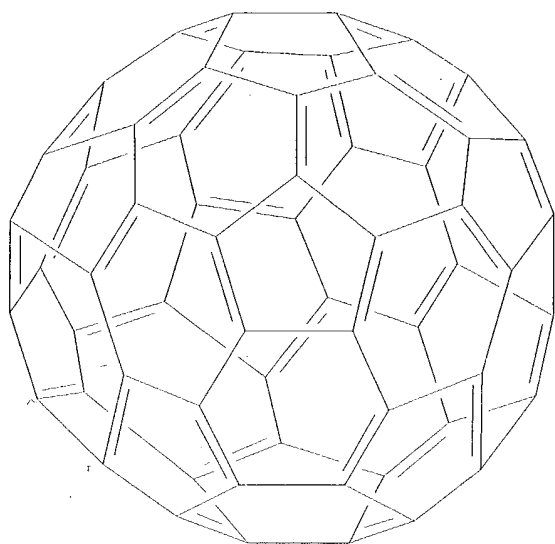
RN 260369-49-1 HCAPLUS

CN [5,6]Fullerene-C60-Ih, polymer with 1-butyne/benzene (9CI) (CA INDEX NAME)

CM 1

CRN 99685-96-8

CMF C60



CM 2

CRN 622-76-4
CMF C10 H10

Ph-C≡C-Et

L26 ANSWER 25 OF 38 HCAPLUS COPYRIGHT 2002 ACS
AN 2000:40623 HCAPLUS
DN 132:287982
TI Conjugated polymers containing pendant terpyridine receptors: highly efficient sensory materials for transition-metal ions
AU Jiang, Biwang; Zhang, Yan; Sahay, Shailesh; Chatterjee, Sudipta; Jones, Wayne E., Jr.
CS Dep. Chem., Institute for Materials Research, Cent. Res. Environ. Systems, State Univ. New York at Binghamton, Binghamton, NY, USA
SO Proceedings of SPIE-The International Society for Optical Engineering (1999), 3856 (Internal Standardization and Calibration Architectures for Chemical Sensors), 212-223
CODEN: PSISDG; ISSN: 0277-786X
PB SPIE-The International Society for Optical Engineering
DT Journal
LA English
CC 79-3 (Inorganic Analytical Chemistry)
AB Conjugated polymers contg. terpyridine receptors were prepd. and characterized which contain unusually high fluorescence sensitivity toward transition metal ions including Fe²⁺, Co²⁺, and Ni²⁺. This unique mol. structure combines inherently fluorescent conjugated polymers with a low lying electronic state formed upon binding between transition metal ions and terpyridine receptors on the polymer. The result is a dramatic fluorescence quenching response of the conjugated polymer. Fluorescence quenching measurements demonstrate quenching rate consts. of 10⁻⁹ M⁻¹ s⁻¹ and .ltoreq.5% quenching of the emission at concns. of 4 X 10⁻⁹ M in org.

soln. The enhanced sensitivity of these structures is explained based on facile energy migration through the conjugated polymer system to any of the pendant excitation trapping sites. Thin films of these materials demonstrate further enhanced quenching efficiencies as well as moderate reversibility.

- ST transition metal ion sensing material terpyridine receptor conjugated polymer
- IT Polymers, uses
 RL: ARG (Analytical reagent use); PNU (Preparation, unclassified); ANST (Analytical study); PREP (Preparation); USES (Uses)
 (conjugated; design and prepn. of new conjugated polymer contg. terpyridine receptors as luminescent sensory system for detection of transition metal ions)
- IT Fluorescence quenching
 (design and prepn. of new conjugated polymer contg. terpyridine receptors as luminescent sensory system for detection of transition metal ions)
- IT Transition metals, analysis
 RL: ANT (Analyte); ANST (Analytical study)
 (ions; design and prepn. of new conjugated polymer contg. terpyridine receptors as luminescent sensory system for detection of transition metal ions)
- IT 7439-89-6, Iron, analysis 7440-02-0, Nickel, analysis 7440-48-4, Cobalt, analysis
 RL: ANT (Analyte); ANST (Analytical study)
 (design and prepn. of new conjugated polymer contg. terpyridine receptors as luminescent sensory system for detection of transition metal ions)
- IT 208348-07-6P **263708-69-6P**
 RL: ARG (Analytical reagent use); PNU (Preparation, unclassified); PRP (Properties); ANST (Analytical study); **PREP (Preparation)**; USES (Uses)
 (design and prepn. of new conjugated polymer contg. terpyridine receptors as **luminescent** sensory system for detection of transition metal ions)
- IT 263708-71-0P **263708-73-2P** 263758-79-8P 263758-80-1P
 RL: PNU (Preparation, unclassified); PRP (Properties); **PREP (Preparation)**
 (design and prepn. of new conjugated polymer contg. terpyridine receptors as **luminescent** sensory system for detection of transition metal ions)
- IT 208348-06-5P, 2,5-Dibromo-3-(trans-(4'-p-phenyl)-2,2':6',2''-terpyridine)vinylene 263708-67-4P, 4'-[p-(Diethylphosphomethyl)phenyl]-2,2':6',2''-terpyridine
 RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (design and prepn. of new conjugated polymer contg. terpyridine receptors as luminescent sensory system for detection of transition metal ions)
- IT 122-52-1, Triethylphosphite 498-62-4, 3-Formyl thiophene 1193-69-7, 2,5-Dibromo-3-formylthiophene 89972-78-1, 4'-[p-(Bromomethyl)phenyl]-2,2':6',2''-terpyridine 104934-52-3, 3-Dodecylthiophene 134367-70-7, 2,5-Diiodo-3-dodecylthiophene 159838-38-7, 1,4-Diethynyl-2,5-dihexadecyloxybenzene 263708-68-5
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (design and prepn. of new conjugated polymer contg. terpyridine receptors as luminescent sensory system for detection of transition metal ions)
- RE.CNT 62 THERE ARE 62 CITED REFERENCES AVAILABLE FOR THIS RECORD
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IT 263708-69-6P

RL: ARG (Analytical reagent use); PNU (Preparation, unclassified); PRP (Properties); ANST (Analytical study); **PREP (Preparation)**; USES (Uses)

(design and prepn. of new conjugated polymer contg. terpyridine receptors as **luminescent** sensory system for detection of transition metal ions)

RN 263708-69-6 HCAPLUS

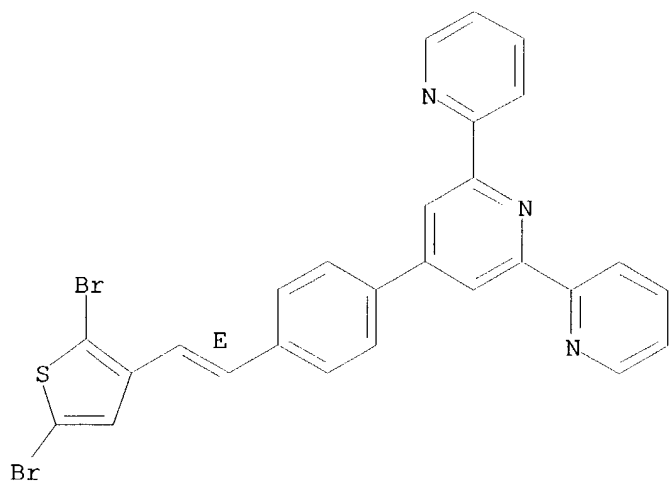
CN 2,2':6',2''-Terpyridine, 4'-[4-[(1E)-2-(2,5-dibromo-3-thienyl)ethenyl]phenyl]-, polymer with 1,4-diethynyl-2,5-bis(hexadecyloxy)benzene (9CI) (CA INDEX NAME)

CM 1

CRN 208348-06-5

CMF C27 H17 Br2 N3 S

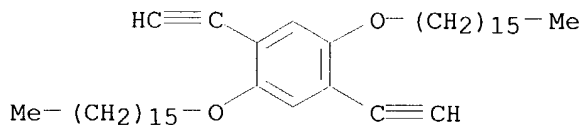
Double bond geometry as shown.



CM 2

CRN 159838-38-7

CMF C42 H70 O2



IT 263708-73-2P

RL: PNU (Preparation, unclassified); PRP (Properties); **PREP (Preparation)**

(design and prepn. of new conjugated polymer contg. terpyridine

receptors as **luminescent** sensory system for detection of transition metal ions)

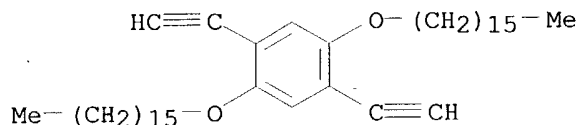
RN 263708-73-2 HCAPLUS

CN Thiophene, 3-dodecyl-2,5-diiodo-, polymer with 1,4-diethynyl-2,5-bis(hexadecyloxy)benzene (9CI) (CA INDEX NAME)

CM 1

CRN 159838-38-7

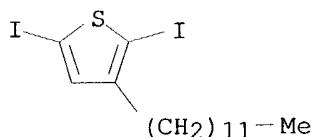
CMF C42 H70 O2



CM 2

CRN 134367-70-7

CMF C16 H26 I2 S



L26 ANSWER 26 OF 38 HCAPLUS COPYRIGHT 2002 ACS

AN 1999:754184 HCAPLUS

DN 132:108958

TI Adjustable electroluminescence: blue-green to red organic light-emitting diodes based on novel poly-non-conjugated oligomers

AU Berkovich, E.; Klein, J.; Sheradsky, T.; Silcoff, E. R.; Ranjit, K. T.; Willner, I.; Nakhmanovich, G.; Gorelik, V.; Eichen, Y.

CS Department of Organic Chemistry, The Hebrew University of Jerusalem, Jerusalem, Israel

SO Synthetic Metals (1999), 107(2), 85-91

CODEN: SYMEDZ; ISSN: 0379-6779

PB Elsevier Science S.A.

DT Journal

LA English

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 37, 73

AB Two new polymers, poly-9,10(1,3-bis(4-ethynylphenoxy)propane)anthracene and poly-1,2(tetra-2,5-thienylene-1,2-vinylene)dimethylsilylethane, based on conjugated chromophores that are interconnected via non-conjugated spacers, were prepd. and characterized in terms of their photo- and electroluminescence (PL and EL, resp.) properties in pure films and in solid solns. The application of solid solns. of the two polymers in PVK:PBD (polyvinyl carbazole:2-(4-biphenyl)-5-(4-tert-Bu phenyl)-1,3,4-oxadiazole) matrixes as active layers in adjustable blue-green to red OLED is presented.

ST nonconjugated oligomer light emitting diode adjustable electroluminescence

- IT Electroluminescent devices
(blue-emitting; prepn. and adjustable electroluminescence from blue-green to red org. light-emitting diodes based on novel poly(nonconjugated) oligomers)
- IT Electroluminescent devices
(green-emitting; prepn. and adjustable electroluminescence from blue-green to red org. light-emitting diodes based on novel poly(nonconjugated) oligomers)
- IT Polysilanes
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polythiophene-; prepn. and adjustable electroluminescence from blue-green to red org. light-emitting diodes based on novel poly(nonconjugated) oligomers)
- IT Polymers, uses
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polythiophenes, polysilane-; prepn. and adjustable electroluminescence from blue-green to red org. light-emitting diodes based on novel poly(nonconjugated) oligomers)
- IT Luminescence, electroluminescence
(prepn. and adjustable electroluminescence from blue-green to red org. light-emitting diodes based on novel poly(nonconjugated) oligomers)
- IT Polydiacetylenes
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(prepn. and adjustable electroluminescence from blue-green to red org. light-emitting diodes based on novel poly(nonconjugated) oligomers)
- IT Electroluminescent devices
(red-emitting; prepn. and adjustable electroluminescence from blue-green to red org. light-emitting diodes based on novel poly(nonconjugated) oligomers)
- IT 15082-28-7 25067-59-8, Poly(N-vinylcarbazole)
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(matrix; prepn. and adjustable electroluminescence from blue-green to red org. light-emitting diodes based on novel poly(nonconjugated) oligomers)
- IT 219818-48-1P, 1,2-Bis(chlorodimethylsilyl)ethane-tetra-2,5-thienylene-1,2-vinylene copolymer **255852-94-9P**, 9,10-Dibromoanthracene-1,3-bis(4-ethynylphenoxy)propane copolymer **255852-95-0P**
255852-96-1P
RL: PRP (Properties); **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(prepn. and adjustable electroluminescence from blue-green to red org. **light-emitting** diodes based on novel poly(nonconjugated) oligomers)
- IT 106-41-2, 4-Bromophenol 109-64-8, 1,3-Dibromopropane 527-72-0, 2-Thiophenecarboxylic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. and adjustable electroluminescence from blue-green to red org. light-emitting diodes based on novel poly(nonconjugated) oligomers)
- IT 3722-66-5P 14756-03-7P 15332-30-6P 60602-70-2P 95219-64-0P
255852-93-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and adjustable electroluminescence from blue-green to red org. light-emitting diodes based on novel poly(nonconjugated) oligomers)
- RE.CNT 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD

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IT 255852-94-9P, 9,10-Dibromoanthracene-1,3-bis(4-ethynylphenoxy)propane copolymer 255852-95-0P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(prepn. and adjustable electroluminescence from blue-green to red org. light-emitting diodes based on novel poly(nonconjugated) oligomers)

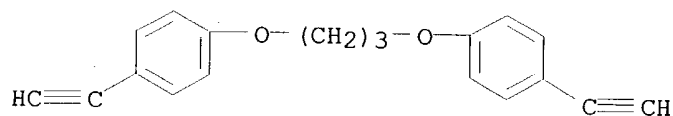
RN 255852-94-9 HCAPLUS

CN Anthracene, 9,10-dibromo-, polymer with 1,1'-[1,3-propanediylbis(oxy)]bis[4-ethynylbenzene] (9CI) (CA INDEX NAME)

CM 1

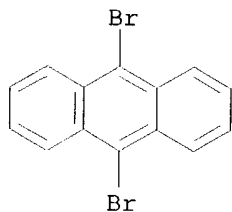
CRN 95219-64-0

CMF C19 H16 O2

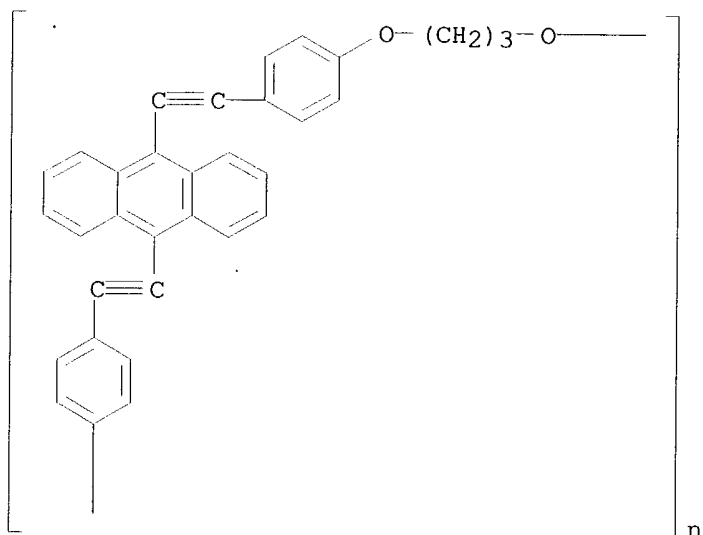


CM 2

CRN 523-27-3
CMF C14 H8 Br2



RN 255852-95-0 HCAPLUS
CN Poly(oxy-1,3-propanediyl-oxy-1,4-phenylene-1,2-ethynediyl-9,10-anthracenediyl-1,2-ethynediyl-1,4-phenylene) (9CI) (CA INDEX NAME)



L26 ANSWER 27 OF 38 HCAPLUS COPYRIGHT 2002 ACS
AN 1999:723129 HCAPLUS
DN 131:344028
TI Emissive polymers and devices incorporating these polymers
IN Swager, Timothy; Yang, Jye-Shane; Williams, Vance; Miao, Yi-Jun; Lugmair, Claus G.; Levitsky, Igor A.; Kim, Jinsang; Deans, Robert
PA Massachusetts Institute of Technology, USA
SO PCT Int. Appl., 109 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C09K011-06
ICS H01L051-20; G01N021-64; H01B001-12
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 9, 38, 50, 76, 79, 80
FAN.CNT 1
PATENT NO. KIND DATE APPLICATION NO. DATE

PI WO 9957222 A1 19991111 WO 1999-US9852 19990505
 W: CA, JP
 RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
 PT, SE
 EP 1080162 A1 20010307 EP 1999-921696 19990505
 R: AT, DE, FR, GB, IT
 PRAI US 1998-84247P P 19980505
 WO 1999-US9852 W 19990505
 AB Luminescent and conductive polymer compns. having chromophores are
 described which comprise polymers having rigid groups designed to prevent
 polymer reorganization, aggregation or .pi.-stacking upon solidification.
 Sensors and methods for sensing an analyte through the luminescent and
 conductive properties of these polymers are also described. Analytes can
 be sensed by activation of a chromophore at a polymer surface. Analytes
 may include aroms., phosphate ester groups and in particular explosives
 and chem. warfare agents in gaseous state. Devices and methods for
 amplifying emissions by incorporating a polymer having an energy migration
 pathway and/or providing the polymer as a block copolymer or as a
 multilayer are also described. Field-effect transistors employing the
 polymers are also described.
 ST FET luminescent conductive polymer; sensor luminescent conductive polymer
 IT Conducting polymers
 Field effect transistors
 Luminescent substances
 Optical amplifiers
 Optical gain
 Optical sensors
 Sensors
 (luminescent polymers and sensors and devices incorporating them)
 IT Chemical warfare agents
 Explosives
 (luminescent polymers and sensors and devices incorporating them for
 sensing)
 IT 222405-95-ODP, reaction products with aminomethylated polystyrene
 resin 249922-31-4P
 RL: ARG (Analytical reagent use); DEV (Device component use); SPN
 (Synthetic preparation); ANST (Analytical study); PREP
 (Preparation); USES (Uses)
 (in prepn. of luminescent polymers and sensors and devices
 incorporating them)
 IT 249922-19-8DP, reaction products with functionalized resins
 RL: DEV (Device component use); SPN (Synthetic preparation);
 PREP (Preparation); USES (Uses)
 (in prepn. of luminescent polymers and sensors and devices
 incorporating them)
 IT 106-51-4, 2,5-Cyclohexadiene-1,4-dione, reactions 120-12-7, Anthracene,
 reactions 120-80-9, 1,2-Dihydroxybenzene, reactions 135-48-8,
 Pentacene 150-78-7, 1,4-Dimethoxybenzene 592-57-4, 1,3-Cyclohexadiene
 619-58-9, 4-Iodobenzoic acid 1066-54-2, Trimethylsilylacetylene
 18908-66-2, 2-Ethylhexylbromide 31093-44-4, Naphthalene boronic acid
 63262-06-6, 1,4-Dibromo-2,5-diiodobenzene 145483-64-3,
 1,4-Dihexadecyloxy-2,5-diiodobenzene 220080-67-1 222405-92-7
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (in prepn. of luminescent polymers and sensors and devices
 incorporating them)
 IT 2050-46-6P, 1,2-Diethoxybenzene 3519-82-2P 5969-70-0P 6932-41-8P
 6932-42-9P 25934-47-8P, 1,2-Didecyloxybenzene 51934-41-9P
 53207-08-2P 78823-45-7P 94762-46-6P 115208-28-1P 195321-60-9P
 214461-09-3P 214461-10-6P 214461-12-8P 214461-13-9P 220080-67-1DP,

polymer with diethynyltetrahydrodibenzenopentacene 220080-74-0P
 220080-99-9P 220081-01-6P 220081-04-9P 220081-06-1P
222405-95-0P 233661-07-9P 249918-56-7P 249919-48-0P
 249922-67-6P 249922-90-5P 249923-14-6P 249923-23-7P 249923-31-7P
 249923-82-8P 249923-84-0P 249923-86-2P 249923-88-4P 249923-90-8P
 249923-91-9P 249923-93-1P 249923-95-3P 249923-98-6P 249924-03-6P
 249924-04-7P 249924-06-9P 249924-08-1P 249924-10-5P 249924-13-8P
 249924-15-0P 249924-17-2P 249924-23-0P

RL: RCT (Reactant); **SPN (Synthetic preparation)**; **PREP**

(Preparation); RACT (Reactant or reagent)

(in prepn. of **luminescent** polymers and sensors and devices incorporating them)

IT 167895-30-9DP, polymer with diethynyltetrahydrodibenzenopentacene
 214461-10-6DP, polymer with dioctylcarbamoyldiiodobenzene 220080-74-ODP,
 polymer with diiodobistetradecyloxybenzene

RL: ARG (Analytical reagent use); DEV (Device component use); SPN
 (Synthetic preparation); ANST (Analytical study); **PREP** (Preparation); **USES**
 (Uses)

(luminescent polymers and sensors and devices incorporating them)

IT 9003-53-6D, functionalized 167895-30-9

RL: RCT (Reactant); RACT (Reactant or reagent)

(luminescent polymers and sensors and devices incorporating them)

IT 118-96-7, TNT 25321-14-6, Dinitrotoluene

RL: ANT (Analyte); ANST (Analytical study)

(luminescent polymers and sensors and devices incorporating them for sensing)

RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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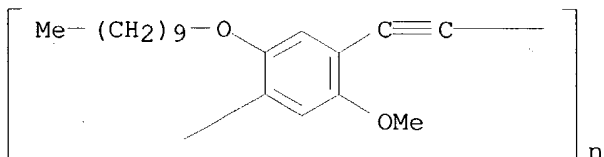
IT **222405-95-0DP**, reaction products with aminomethylated polystyrene resin **249922-31-4P**

RL: ARG (Analytical reagent use); DEV (Device component use); **SPN**
(Synthetic preparation); ANST (Analytical study); **PREP**
(Preparation); **USES** (Uses)

(in prepn. of **luminescent** polymers and sensors and devices incorporating them)

RN 222405-95-0 HCAPLUS

CN Poly[[2-(decyloxy)-5-methoxy-1,4-phenylene]-1,2-ethynediyl] (9CI) (CA
 INDEX NAME)



RN 249922-31-4 HCAPLUS

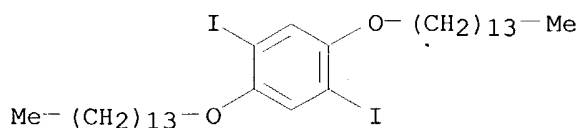
CN Naphthalene, 1,1'-(2,5-diethynyl-1,4-phenylene)bis-, polymer with

1,4-diiodo-2,5-bis(tetradecyloxy)benzene (9CI) (CA INDEX NAME)

CM 1

CRN 220080-67-1

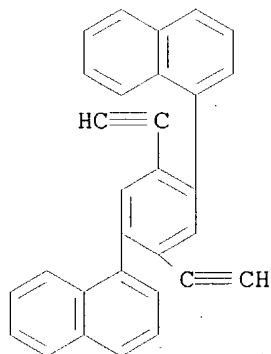
CMF C34 H60 I2 O2



CM 2

CRN 214461-09-3

CMF C30 H18



IT **249922-19-8DP**, reaction products with functionalized resins
 RL: DEV (Device component use); **SPN (Synthetic preparation)**;
PREP (Preparation); USES (Uses)
 (in prepn. of **luminescent** polymers and sensors and devices
 incorporating them)

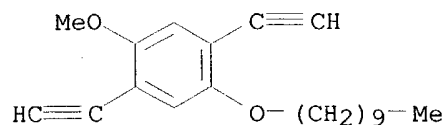
RN 249922-19-8 HCAPLUS

CN Benzene, 1,4-bis(hexadecyloxy)-2,5-diiodo-, polymer with
 1-(decyloxy)-2,5-diethynyl-4-methoxybenzene (9CI) (CA INDEX NAME)

CM 1

CRN 222405-92-7

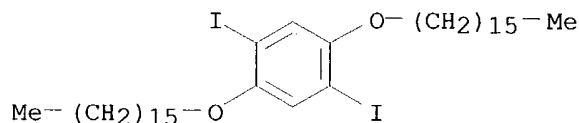
CMF C21 H28 O2



CM 2

CRN 145483-64-3

CMF C38 H68 I2 O2



IT 222405-95-0P

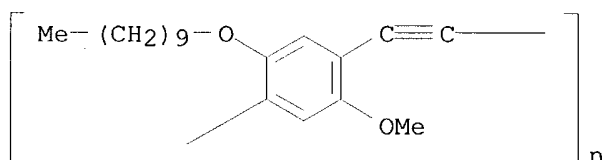
RL: RCT (Reactant); SPN (Synthetic preparation); PREP

(Preparation); RACT (Reactant or reagent)

(in prepn. of luminescent polymers and sensors and devices incorporating them)

RN 222405-95-0 HCAPLUS

CN Poly[[2-(decyloxy)-5-methoxy-1,4-phenylene]-1,2-ethynediyl] (9CI) (CA INDEX NAME)



L26 ANSWER 28 OF 38 HCAPLUS COPYRIGHT 2002 ACS

AN 1999:694915 HCAPLUS

DN 132:36373

TI A Blue-Luminescent Dendritic Rod: Poly(phenyleneethynylene) within a Light-Harvesting Dendritic Envelope

AU Sato, Takafumi; Jiang, Dong-Lin; Aida, Takuzo

CS Department of Chemistry and Biotechnology Graduate School of Engineering, The University of Tokyo, Bunkyo-ku Tokyo, 113-8656, Japan

SO Journal of the American Chemical Society (1999), 121(45), 10658-10659 CODEN: JACSAT; ISSN: 0002-7863

PB American Chemical Society

DT Journal

LA English

CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 38, 73

AB A series of poly(phenyleneethynylene) dendrimers were synthesized and their optical characteristics were reported. This the first blue-luminescent dendritic rod consisting of a rigid poly(phenyleneethynylene) conjugated backbone wrapped with the flexible poly(benzyl ether) dendritic envelope.

ST blue luminescent dendritic rod polyphenyleneethynylene; polyacetylene blue luminescent dendritic polybenzyl ether

IT Electroluminescent devices

(blue-emitting; prepn. and characterization of blue-luminescent poly(phenyleneethynylenes) within light-harvesting dendritic envelope)

IT Polyethers, preparation

Polyethers, preparation

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP

- (Preparation); RACT (Reactant or reagent)
 (dendrimers, polyphenyleneacetylene derivs.; prepn. and
 characterization of blue-luminescent poly(phenyleneethynylenes) within
 light-harvesting dendritic envelope)
- IT Polyacetylenes, preparation
 Polyacetylenes, preparation
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP
 (Preparation); RACT (Reactant or reagent)
 (dendrimers; prepn. and characterization of blue-luminescent
 poly(phenyleneethynylenes) within light-harvesting dendritic envelope)
- IT Dendritic polymers
 Dendritic polymers
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP
 (Preparation); RACT (Reactant or reagent)
 (polyacetylenes; prepn. and characterization of blue-luminescent
 poly(phenyleneethynylenes) within light-harvesting dendritic envelope)
- IT Dendritic polymers
 Dendritic polymers
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP
 (Preparation); RACT (Reactant or reagent)
 (polyethers, polyphenyleneacetylene derivs.; prepn. and
 characterization of blue-luminescent poly(phenyleneethynylenes) within
 light-harvesting dendritic envelope)
- IT Electronic excitation
 Fluorescence
 (prepn. and characterization of blue-luminescent
 poly(phenyleneethynylenes) within light-harvesting dendritic envelope)
- IT 129371-31-9DP, Me ethers, phenylenediacetylene derivs., polymer with
 p-diiodobenzene
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP
 (Preparation); RACT (Reactant or reagent)
 (dendritic; prepn. and characterization of blue-luminescent
 poly(phenyleneethynylenes) within light-harvesting dendritic envelope)
- IT 624-38-4DP, polymers with arom. polyether dendron-modified
 phenylenediacetylenes, Me ethers 935-14-8DP, arom. polyether
 dendron-derivs., polymers with p-diiodobenzene, Me ethers
252273-92-0P 252273-94-2P 252273-96-4P
252273-97-5P
 RL: PRP (Properties); RCT (Reactant); **SPN (Synthetic preparation)**
; PREP (Preparation); RACT (Reactant or reagent)
 (prepn. and characterization of blue-luminescent
 poly(phenyleneethynylenes) within light-harvesting dendritic envelope)
- IT 624-38-4, 1,4-Diiodobenzene 75610-48-9 152811-37-5 176650-93-4
 252273-95-3
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (prepn. and characterization of blue-luminescent
 poly(phenyleneethynylenes) within light-harvesting dendritic envelope)
- RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD
- RE
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IT 252273-92-0P 252273-94-2P 252273-96-4P

252273-97-5P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation)

; PREP (Preparation); RACT (Reactant or reagent)

(prepn. and characterization of blue-luminescent

poly(phenyleneethynylenes) within light-harvesting dendritic envelope)

RN 252273-92-0 HCAPLUS

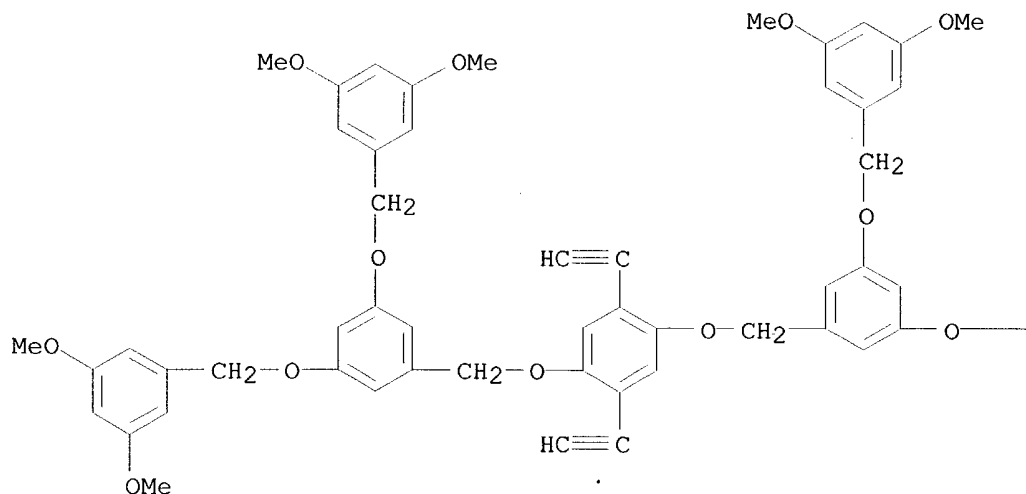
CN Benzene, 1,4-bis[[3,5-bis[(3,5-dimethoxyphenyl)methoxy]phenyl]methoxy]-2,5-diethynyl-, polymer with 1,4-diiodobenzene (9CI) (CA INDEX NAME)

CM 1

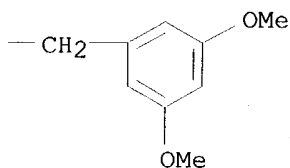
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CMF C60 H58 O14

PAGE 1-A



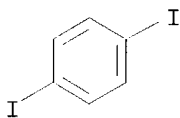
PAGE 1-B



CM 2

CRN 624-38-4

CMF C6 H4 I2



RN 252273-94-2 HCAPLUS

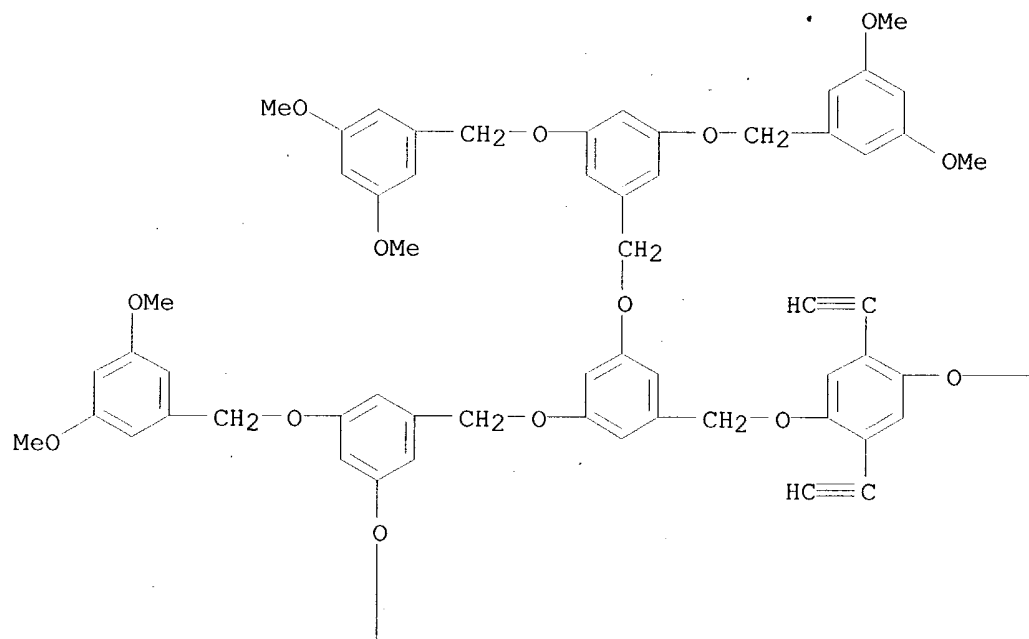
CN Benzene, 1,4-bis[[3,5-bis[[3,5-bis[(3,5-dimethoxyphenyl)methoxy]phenyl]methoxy]phenyl]methoxy]-2,5-diethynyl-, polymer with 1,4-diiodobenzene (9CI)
(CA INDEX NAME)

CM 1

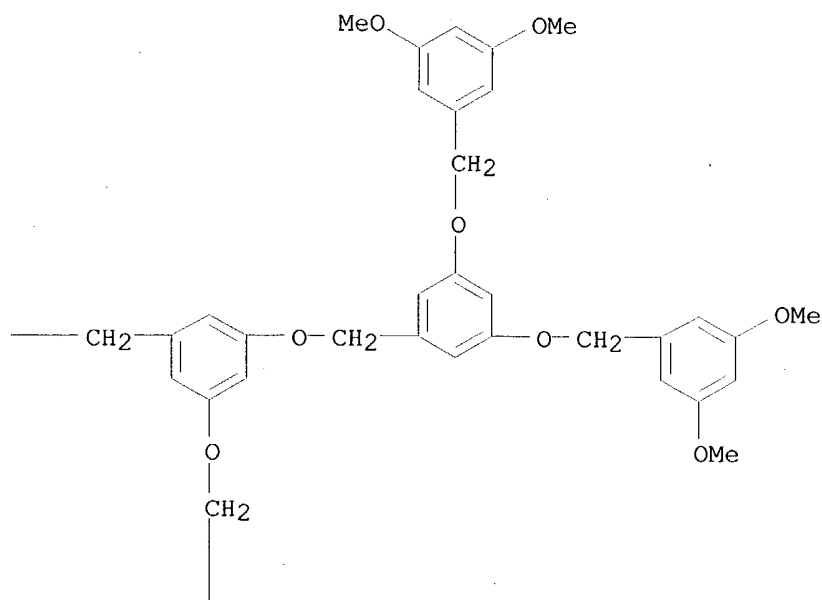
CRN 252273-93-1

CMF C124 H122 O30

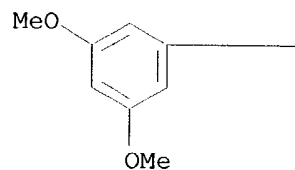
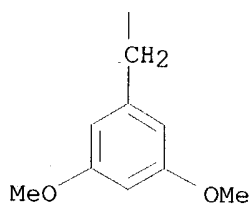
PAGE 1-A



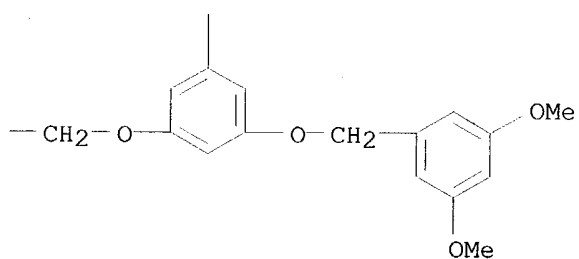
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PAGE 2-A



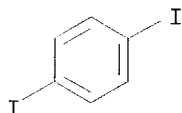
PAGE 2-B



CM 2

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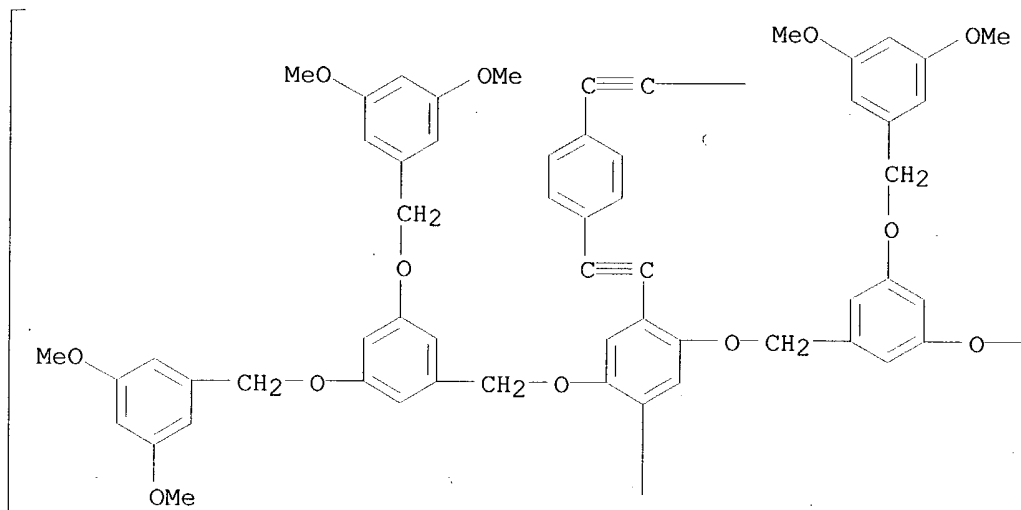
CMF C6 H4 I2



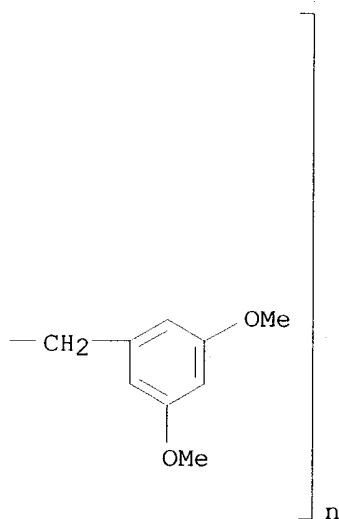
RN 252273-96-4 HCAPLUS

CN Poly[[2,5-bis[[3,5-bis[(3,5-dimethoxyphenyl)methoxy]phenyl]methoxy]-1,4-phenylene]-1,2-ethynediyl-1,4-phenylene-1,2-ethynediyl] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



RN 252273-97-5 HCAPLUS
 CN Poly[[2,5-bis[[3,5-bis[[3,5-bis[(3,5-dimethoxyphenyl)methoxy]phenyl]methoxy]phenyl]methoxy]-1,4-phenylene]-1,2-ethynediyl-1,4-phenylene-1,2-ethynediyl] (9CI) (CA INDEX NAME)

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

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* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

L26 ANSWER 29 OF 38 HCAPLUS COPYRIGHT 2002 ACS

AN 1999:596955 HCAPLUS

DN 131:235518

TI Boron-containing .pi.-conjugated polymer and light-emitting material and nonlinear optical material containing the polymer

IN Nakajo, Yoshiki; Naka, Kensuke; Matsumi, Noriyoshi

PA TDK Electronics Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 22 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08G079-08

ICS C09K011-06; G02F001-35

CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 35, 38

FAN.CNT 1

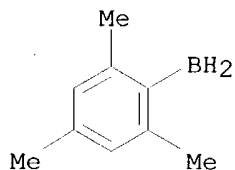
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11255902	A2	19990921	JP 1998-80193	19980312
AB	The B-contg. .pi.-conjugated polymer is that prepd. by hydroboration polymn. of monoallylboranes and arom. diyns. The light-emitting material and the nonlinear optical material contains the polymer and the materials show improved environment resistance.				
ST	boron contg pi conjugated polymer; hydroboration polymn monoarylborane arom diyn; light emitting material pi conjugated polymer; nonlinear optical material pie conjugated polymer; environment resistance nonlinear optical material				
IT	Nonlinear optical materials (boron-contg. .pi.-conjugated polymer prepd. by hydroboration polymn. of monoarylboranes and arom. diyns for light-emitting material and nonlinear optical material)				
IT	Phosphors (electroluminescent; boron-contg. .pi.-conjugated polymer prepd. by hydroboration polymn. of monoarylboranes and arom. diyns for light-emitting material and nonlinear optical material)				
IT	Polymerization (hydroboration; boron-contg. .pi.-conjugated polymer prepd. by hydroboration polymn. of monoarylboranes and arom. diyns for light-emitting material and nonlinear optical material)				
IT	Hydroboration (polymn.; boron-contg. .pi.-conjugated polymer prepd. by hydroboration polymn. of monoarylboranes and arom. diyns for light-emitting material and nonlinear optical material)				
IT	576-83-0, Mesityl bromide 1066-54-2 RL: RCT (Reactant); RACT (Reactant or reagent) (boron-contg. .pi.-conjugated polymer prepd. by hydroboration polymn.				

- of arom. diyns and monoarylboranes from)
- IT 207924-53-6P 207924-54-7P 207924-56-9P 207924-57-0P
207924-58-1P 207924-59-2P 207924-60-5P 207924-61-6P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(boron-contg. .pi.-conjugated polymer prepd. by hydroboration polymn. of monoarylboranes and arom. diyns for **light-emitting** material and nonlinear optical material)
- IT 17938-13-5P 18750-95-3P 29619-44-1P 34907-53-4P 210424-16-1P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(intermediate; boron-contg. .pi.-conjugated polymer prepd. by hydroboration polymn. of arom. diyns and monoarylboranes from)
- IT 935-14-8P 18512-55-5P 38215-38-2P 45741-00-2P, Mesitylborane 94463-11-3P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(monomer; boron-contg. .pi.-conjugated polymer prepd. by hydroboration polymn. of monoarylboranes and arom. diyns for light-emitting material and nonlinear optical material)
- IT 207924-53-6P 207924-56-9P 207924-58-1P 207924-60-5P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(boron-contg. .pi.-conjugated polymer prepd. by hydroboration polymn. of monoarylboranes and arom. diyns for **light-emitting** material and nonlinear optical material)
- RN 207924-53-6 HCAPLUS
CN Borane, (2,4,6-trimethylphenyl)-, polymer with 1,4-diethynylbenzene (9CI)
(CA INDEX NAME)

CM 1

CRN 45741-00-2

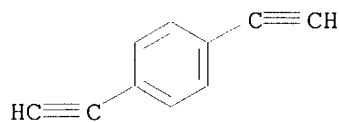
CMF C9 H13 B



CM 2

CRN 935-14-8

CMF C10 H6



RN 207924-56-9 HCAPLUS

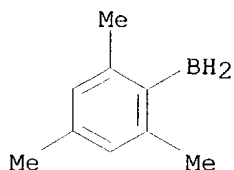
CN Borane, (2,4,6-trimethylphenyl)-, polymer with 4,4'-diethynyl-1,1'-

biphenyl (9CI) (CA INDEX NAME)

CM 1

CRN 45741-00-2

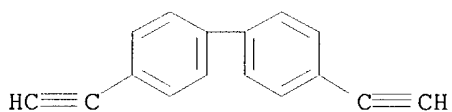
CMF C9 H13 B



CM 2

CRN 38215-38-2

CMF C16 H10



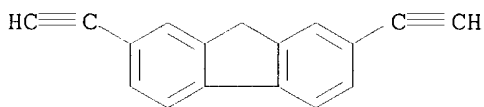
RN 207924-58-1 HCAPLUS

CN Borane, (2,4,6-trimethylphenyl)-, polymer with 2,7-diethynyl-9H-fluorene (9CI) (CA INDEX NAME)

CM 1

CRN 94463-11-3

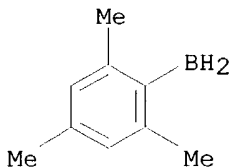
CMF C17 H10



CM 2

CRN 45741-00-2

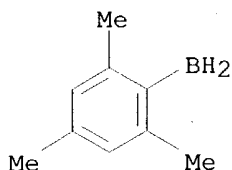
CMF C9 H13 B



RN 207924-60-5 HCAPLUS
 CN Borane, (2,4,6-trimethylphenyl)-, polymer with 9,10-diethynylantracene
 (9CI) (CA INDEX NAME)

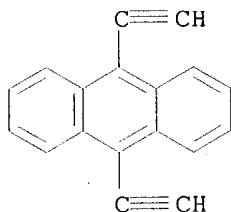
CM 1

CRN 45741-00-2
 CMF C9 H13 B



CM 2

CRN 18512-55-5
 CMF C18 H10



L26 ANSWER 30 OF 38 HCAPLUS COPYRIGHT 2002 ACS

AN 1999:455999 HCAPLUS

DN 131:215056

TI Synthesis and luminescence studies of poly(fluorenylene ethynylene)s

AU Hong, J. M.; Cho, H. N.; Kim, D. Y.; Kim, C. Y.

CS Polymer Materials Lab., KIST, Seoul, 130-650, S. Korea

SO Synthetic Metals (1999), 102(1-3), 933-934

CODEN: SYMEDZ; ISSN: 0379-6779

PB Elsevier Science S.A.

DT Journal

LA English

CC 37-5 (Plastics Manufacture and Processing)

Section cross-reference(s): 73, 76

AB Poly(9,9'-di-n-hexyl-2,7-fluorenyleneethynylene-m-phenyleneethynylene) (PDHFMPE) and poly(9,9'-di-n-hexyl-2,7-fluorenylene ethynylene-p-phenylene ethynylene) (PDHFPPE) were synthesized. Thermal characteristics of these polymers were detd. by DSC and TGA to reveal that these polymers could be crosslinked at high temp. UV-Vis absorption, IR and Raman spectra were examd. also. Photoluminescence spectra showed green light emission with the PL max. at 490 nm for meta and 472 nm for para structure. These polymers could be easily crosslinked thermally or by UV-irradn. in an argon atm. With the increasing of the crosslinking d., the intensity of photoluminescence decreased despite of slight change in absorption spectra.

ST polyfluorenyleneethynylene phenyleneethynylene synthesis TGA DSC
photoluminescence electroluminescence
IT Differential scanning calorimetry
Luminescence
Luminescence, electroluminescence
Thermogravimetric analysis
(synthesis and luminescence studies of poly(fluorenylene ethynylenes))
IT Polyacetylenes, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(synthesis and luminescence studies of poly(fluorenylene ethynylenes))
IT 108-86-1DP, Bromobenzene, reaction products with dibromobenzene-2,7-
diethynyl-9,9-dihexylfluorene copolymers 242474-85-7DP,
bromobenzene-endcapped 242474-86-8P 242474-87-9DP,
bromobenzene-endcapped 242474-88-0P
RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)
(synthesis and luminescence studies of poly(fluorenylene
ethynylenes))

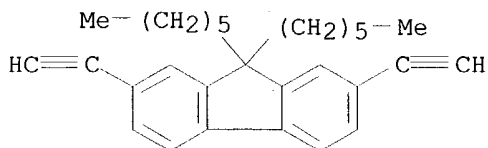
RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

(1) Burroughes, J; Nature 1990, V347, P539 HCAPLUS
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(3) Douglas, E; Polym Prepr 1993, V34, P702 HCAPLUS
(4) Gandon, S; Polym Prepr 1995, V36, P723 HCAPLUS
(5) Hirohata, M; Syn Met 1997, V85, P1273 HCAPLUS
(6) Kent, A; Angew Chem Int Ed 1998, V37, P402
(7) Lussem, G; Adv Mater 1995, V7, P923
IT 242474-85-7DP, bromobenzene-endcapped 242474-86-8P
242474-87-9DP, bromobenzene-endcapped 242474-88-0P
RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)
(synthesis and luminescence studies of poly(fluorenylene
ethynylenes))

RN 242474-85-7 HCAPLUS
CN 9H-Fluorene, 2,7-diethynyl-9,9-dihexyl-, polymer with 1,3-dibromobenzene
(9CI) (CA INDEX NAME)

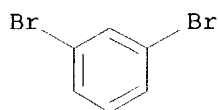
CM 1

CRN 220625-90-1
CMF C29 H34



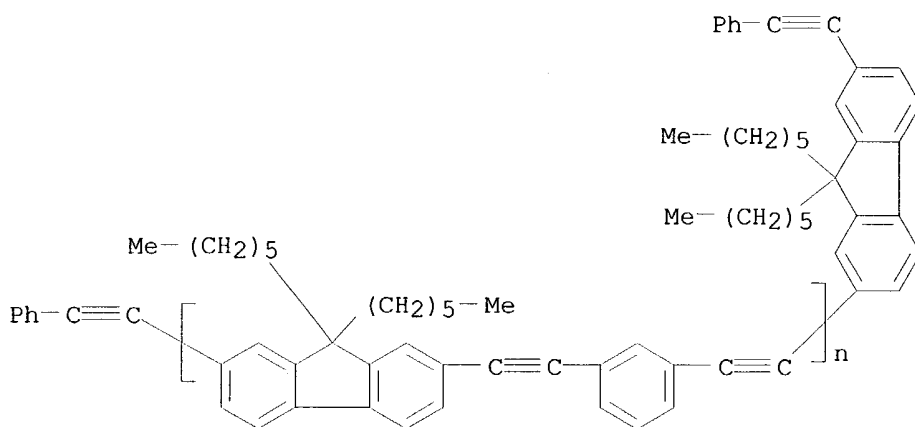
CM 2

CRN 108-36-1
CMF C6 H4 Br2



RN 242474-86-8 HCAPLUS

CN Poly[(9,9-dihexyl-9H-fluorene-2,7-diyl)-1,2-ethynediyl-1,3-phenylene-1,2-ethynediyl], .alpha.-(phenylethynyl)-.omega.-[9,9-dihexyl-7-(phenylethynyl)-9H-fluorene-2-yl]- (9CI) (CA INDEX NAME)



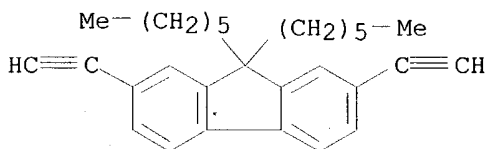
RN 242474-87-9 HCAPLUS

CN 9H-Fluorene, 2,7-diethynyl-9,9-dihexyl-, polymer with 1,4-dibromobenzene (9CI) (CA INDEX NAME)

CM 1

CRN 220625-90-1

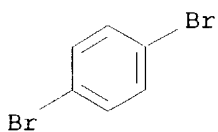
CMF C29 H34



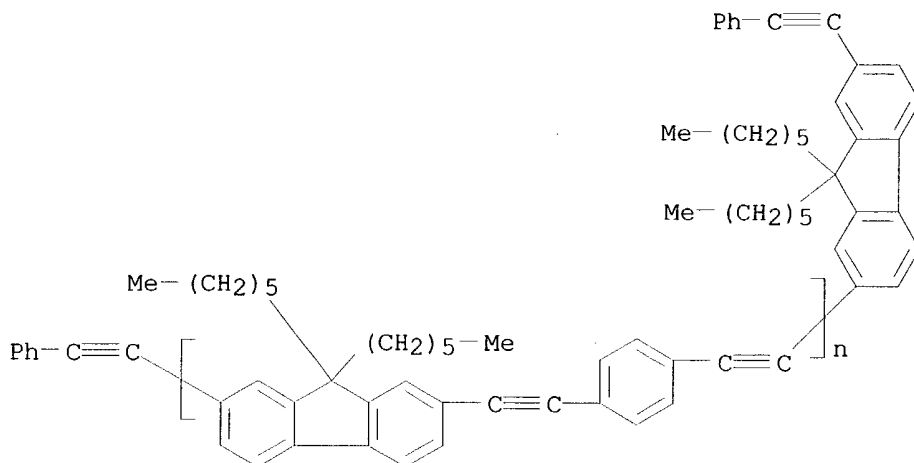
CM 2

CRN 106-37-6

CMF C6 H4 Br2



RN 242474-88-0 HCAPLUS
 CN Poly[(9,9-dihexyl-9H-fluorene-2,7-diyl)-1,2-ethynediyl-1,4-phenylene-1,2-ethynediyl], .alpha.-(phenylethynyl)-.omega.-[9,9-dihexyl-7-(phenylethynyl)-9H-fluoren-2-yl]- (9CI) (CA INDEX NAME)



L26 ANSWER 31 OF 38 HCAPLUS COPYRIGHT 2002 ACS
 AN 1999:175848 HCAPLUS
 DN 130:202731
 TI Polymer light emitting device
 IN Ohnishi, Toshihiro; Noguchi, Takanobu; Doi, Shuji
 PA Sumitomo Chemical Company, Limited, Japan
 SO Eur. Pat. Appl., 20 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 IC ICM H01L051-20
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 38, 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 901174	A2	19990310	EP 1998-116574	19980902
	EP 901174	A3	20020227		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	US 6403236	B1	20020611	US 1998-145338	19980901
	JP 11176576	A2	19990702	JP 1998-249555	19980903
PRAI	JP 1997-239625	A	19970904		

AB Polymer light-emitting devices having a light-emitting layer contg. a polymeric fluorescent substance and a charge transporting layer are described in which the polymeric fluorescent substance contains .gtoreq.1 kind of repeating units represented by the general formula -Ar1-CR1:CR2- (Ar1 = arylene or heterocyclic groups with 4-20 C atoms taking part in a conjugated bond; and R1 and R2 are independently selected from H, C1-20 alkyl, C6-20 aryl, C4-20 heterocyclic groups, and -CN) and the charge transporting layer contains an org. compd. 1-70 wt.% which satisfies the conditions 1 and 2 : EOX2 - 0.15 .ltoreq. EOX1 .ltoreq. EOX2 + 0.10

(condition 1) .lambda.edge2 - 30 .ltoreq. .lambda.edg1 .ltoreq. .lambda.edge2 + 20 (condition 2) (EOX1 and .lambda.edg1 resp. represent an electrochem. detd. oxidn. potential and an absorption edge wavelength of an absorption spectrum of the org. compd.; EOX2 and .lambda.edge2 resp. represent an electrochem. detd. oxidn. potential and an absorption edge wavelength of an absorption spectrum of the polymeric fluorescent substance used in the light emitting layer; and the units used for condition 1 are volts and the units used for condition 2 are nm).

ST polymeric light emitting device

IT Phosphors

(electroluminescent; polymeric light-emitting devices)

IT Electroluminescent devices

Electroluminescent devices

(polymeric light-emitting devices)

IT 2085-33-8, Tris(8-hydroxyquinolinato)aluminum 25067-59-8, Poly(N-vinyl carbazole)

RL: DEV (Device component use); USES (Uses)

(polymeric light-emitting devices)

IT 174230-68-3DP, phosphonium salts, reaction products with aldehydes

219987-84-5P **220776-67-0P** 220776-68-1P 220776-69-2P

220776-70-5DP, phosphonium salts, reaction products with aldehydes

RL: DEV (Device component use); PRP (Properties); **SPN (Synthetic preparation); PREP (Preparation);** USES (Uses)

(polymeric light-emitting devices)

IT 603-35-0, Triphenylphosphine, reactions 623-27-8, Terephthalaldehyde

3029-19-4, 1-Pyrenecarbaldehyde 174230-68-3 196877-73-3

RL: RCT (Reactant); RACT (Reactant or reagent)

(polymeric light-emitting devices)

IT **220776-67-0P**

RL: DEV (Device component use); PRP (Properties); **SPN (Synthetic preparation); PREP (Preparation);** USES (Uses)

(polymeric light-emitting devices)

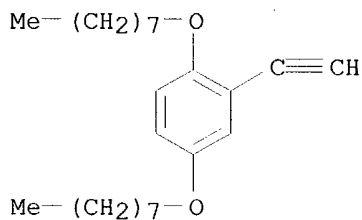
RN 220776-67-0 HCAPLUS

CN Benzene, 2-ethynyl-1,4-bis(octyloxy)-, polymer with ethynylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 220776-66-9

CMF C24 H38 O2



CM 2

CRN 536-74-3

CMF C8 H6

Ph-C≡CH

- L26 ANSWER 32 OF 38 HCAPLUS COPYRIGHT 2002 ACS
 AN 1998:549014 HCAPLUS
 DN 129:246016
 TI A Processible Poly(phenyleneethynylene) with Strong Photoluminescence: Synthesis and Characterization of Poly[(m-phenyleneethynylene)-alt-(p-phenyleneethynylene)]
 AU Pang, Yi; Li, Juan; Hu, Bin; Karasz, Frank E.
 CS Department of Chemistry Center for High Performance Polymers and Composites, Clark Atlanta University, Atlanta, GA, 30314, USA
 SO Macromolecules (1998), 31(19), 6730-6732
 CODEN: MAMOBX; ISSN: 0024-9297
 PB American Chemical Society
 DT Journal
 LA English
 CC 37-5 (Plastics Manufacture and Processing)
 Section cross-reference(s): 38, 73
 AB The prepn. and characterization of 2,5-bis(hexyloxy)-1,4-diiodobenzene-1,3-diethynylbenzene copolymer is described with respect to development of polyphenyleneacetylenes with improved processability and good luminescent properties. The obsd. monomodal mol. wt. distribution suggested that cyclic products were not formed during the polymn. Incorporation of the m-phenylene unit enabled the chain to effectively adopt a coil-like conformation in soln. Preliminary results indicated that electroluminescence could be obtained in a single layer device of the prepd. polymer, although the EL spectrum is slightly red-shifted with respect to the photoluminescence spectrum, indicating perhaps the presence of a second electro-optically active species.
 ST processible polyphenyleneethynylene prepn characterization; electroluminescence polyphenyleneacetylene; chain conformation polyphenyleneacetylene; luminescence polyphenyleneacetylene chain structure
 IT Polymer chains
 (conformation; prepn. and luminescence of m-phenylene unit-contg. polyphenyleneacetylenes)
 IT Polyacetylenes, preparation
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (polyphenylene-; prepn. and luminescence of m-phenylene unit-contg. polyphenyleneacetylenes)
 IT Luminescence
 Luminescence, electroluminescence
 (prepn. and luminescence of m-phenylene unit-contg. polyphenyleneacetylenes)
 IT 213262-77-2P 213262-79-4P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and luminescence of m-phenylene unit-contg. polyphenyleneacetylenes)
 RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD
 RE
 (1) Burroughes, J; Nature 1990, V347, P539 HCAPLUS
 (2) Davey, A; J Chem Soc, Chem Commun 1995, P1433 HCAPLUS
 (3) Greenham, N; Chem Phys Lett 1995, V241, P89 HCAPLUS
 (4) Kang, B; Macromolecules 1997, V30, P7196 HCAPLUS
 (5) Kondo, K; Macromolecules 1993, V26, P7382 HCAPLUS
 (6) Li, H; Macromolecules 1998, V31, P52 HCAPLUS

- (7) Li, J; Macromolecules 1997, V30, P7487 HCAPLUS
- (8) Moroni, M; Macromolecules 1994, V27, P562 HCAPLUS
- (9) Pang, Y; J Mater Chem, in press
- (10) Son, S; Science 1995, V269, P376 HCAPLUS
- (11) Steiger, D; Macromol Rapid Commun 1997, V18, P643 HCAPLUS
- (12) Swager, T; J Phys Chem 1995, V99, P4886 HCAPLUS
- (13) Swanson, L; Synth Met 1993, V55-57, P1
- (14) Trumbo, D; J Polym Sci, Part A: Polym Chem 1986, V24, P2311 HCAPLUS
- (15) Tsuji, J; Palladium Reagents and Catalysts: Innovations in Organic Synthesis 1995, P168
- (16) Weder, C; Macromolecules 1996, V29, P5157 HCAPLUS
- (17) Weder, C; Mat Res Soc Symp Proc 1996, V413, P77 HCAPLUS
- (18) Weder, C; Science 1998, V279, P835 HCAPLUS

IT 213262-77-2P 213262-79-4P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(prepn. and luminescence of m-phenylene unit-contg. polyphenyleneacetylenes)

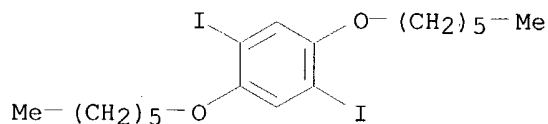
RN 213262-77-2 HCAPLUS

CN Benzene, 1,4-bis(hexyloxy)-2,5-diiodo-, polymer with 1,3-diethynylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 153033-31-9

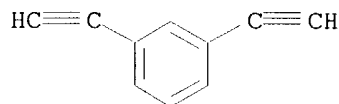
CMF C18 H28 I2 O2



CM 2

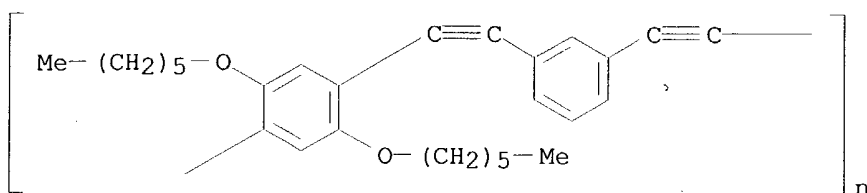
CRN 1785-61-1

CMF C10 H6



RN 213262-79-4 HCAPLUS

CN Poly[[2,5-bis(hexyloxy)-1,4-phenylene]-1,2-ethynediyl-1,3-phenylene-1,2-ethynediyl] (9CI) (CA INDEX NAME)



- L26 ANSWER 33 OF 38 HCAPLUS COPYRIGHT 2002 ACS
 AN 1998:483251 HCAPLUS
 DN 129:189740
 TI Processible poly[(p-phenyleneethynylene)-alt-(2,5-thienyleneethynylene)]s of high luminescence: their synthesis and physical properties
 AU Pang, Yi; Li, Juan; Barton, Thomas J.
 CS Department of Chemistry Center for High Performance Polymers and Composites, Clark Atlanta University, Atlanta, GA, 30314, USA
 SO Journal of Materials Chemistry (1998), 8(8), 1687-1690
 CODEN: JMACEP; ISSN: 0959-9428
 PB Royal Society of Chemistry
 DT Journal
 LA English
 CC 35-5 (Chemistry of Synthetic High Polymers)
 AB Several alternating copolymers, poly[(p-phenyleneethynylene)-alt-(2,5-thienyleneethynylene)]s (PPETEs), have been synthesized by using a Heck-type coupling reaction under mild conditions. The polymers are characterized by using ¹H and ¹³C NMR, UV-visible absorption and fluorescence spectroscopy. PPETEs produced under the mild conditions exhibit longer conjugation length (ca. 10 nm in UV-visible absorption λ_{max}) than the same polymers synthesized at high temp. The chain rigidity of the copolymers is moderate with Mark-Houwink const. $\alpha = 0.82-0.94$, which is moderately higher than PTE 2 ($\alpha = 0.68$) but significantly lower than PPE 3 ($\alpha = 1.92$). The PL quantum efficiencies of PPETE copolymers are found to be $\Phi_{PL} = 0.37-0.48$, which is comparable to PPE homopolymers and much higher than for PTE ($\Phi_{PL} = 0.18$). Synthesis of copolymer PPETE thus successfully combines both the high luminescence of PPE and good soly. of PTE into a single polymer chain.
 ST polyphenyleneethynylene polythienyleneethynylene; Heck coupling prep
 polyacetylene polythiophene
 IT Polymerization
 (Heck-type coupling; of diiodothiophenes with diethynylbenzenes)
 IT Polyacetylenes, preparation
 Polyacetylenes, preparation
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (polythiophene-; synthesis by Heck-type coupling and phys. properties of processible poly[(p-phenyleneethynylene)-alt-(2,5-thienyleneethynylene)]s of high luminescence)
 IT Luminescence
 (synthesis by Heck-type coupling and phys. properties of processible poly[(p-phenyleneethynylene)-alt-(2,5-thienyleneethynylene)]s of high luminescence)
 IT **149011-99-4P**, 1,4-Diethynylbenzene-3-hexyl-2,5-diiodothiophene copolymer 149175-01-9P, 1,4-Diethynylbenzene-3-hexyl-2,5-diiodothiophene copolymer. SRU **211577-36-5P**, 1,4-Diethynyl-2,5-bis(octyloxy)benzene-2,5-diiodothiophene copolymer **211577-37-6P** **211577-38-7P** 211629-30-0P
 RL: PRP (Properties); **SPN (Synthetic preparation)**; **PREP**

(Preparation)

(synthesis by Heck-type coupling and phys. properties of processible poly[(p-phenyleneethynylene)-alt-(2,5-thienyleneethynylene)]s of high luminescence)

IT 149011-99-4P, 1,4-Diethynylbenzene-3-hexyl-2,5-diiodothiophene copolymer 211577-36-5P, 1,4-Diethynyl-2,5-bis(octyloxy)benzene-2,5-diiodothiophene copolymer 211577-37-6P 211577-38-7P

RL: PRP (Properties); SPN (Synthetic preparation); PREP

(Preparation)

(synthesis by Heck-type coupling and phys. properties of processible poly[(p-phenyleneethynylene)-alt-(2,5-thienyleneethynylene)]s of high luminescence)

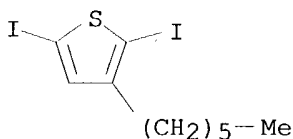
RN 149011-99-4 HCAPLUS

CN Thiophene, 3-hexyl-2,5-diiodo-, polymer with 1,4-diethynylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 113736-20-2

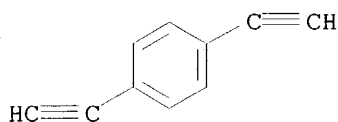
CMF C10 H14 I2 S



CM 2

CRN 935-14-8

CMF C10 H6



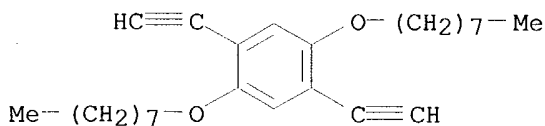
RN 211577-36-5 HCAPLUS

CN Thiophene, 2,5-diiodo-, polymer with 1,4-diethynyl-2,5-bis(octyloxy)benzene (9CI) (CA INDEX NAME)

CM 1

CRN 153033-27-3

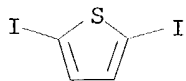
CMF C26 H38 O2



CM 2

CRN 625-88-7

CMF C4 H2 I2 S



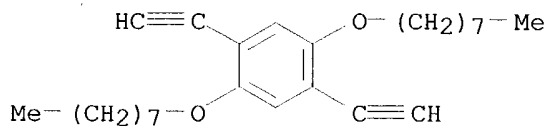
RN 211577-37-6 HCAPLUS

CN Thiophene, 3-hexyl-2,5-diiodo-, polymer with 1,4-diethynyl-2,5-bis(octyloxy)benzene (9CI) (CA INDEX NAME)

CM 1

CRN 153033-27-3

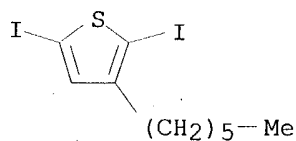
CMF C26 H38 O2



CM 2

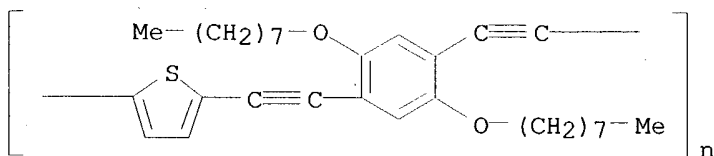
CRN 113736-20-2

CMF C10 H14 I2 S



RN 211577-38-7 HCAPLUS

CN Poly[2,5-thiophenediyl-1,2-ethynediyl[2,5-(octyloxy)-1,4-phenylene]-1,2-ethynediyl] (9CI) (CA INDEX NAME)



L26 ANSWER 34 OF 38 HCAPLUS COPYRIGHT 2002 ACS

AN 1997:102113 HCAPLUS

DN 126:200225

TI Conjugated polymer exciplexes and applications thereof

KATHLEEN FULLER EIC 1700/LAW LIBRARY 308-4290

IN Jenekhe, Samson A.
 PA Research Corporation Technologies, Inc., USA
 SO U.S., 60 pp., Cont.-in-part of U.S. Ser. No. 146,266.
 CODEN: USXXAM
 DT Patent
 LA English
 IC ICM C08G073-22
 NCL 528397000
 CC 37-6 (Plastics Manufacture and Processing)
 Section cross-reference(s): 73, 74

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5597890	A	19970128	US 1994-187278	19940126
	US 5599899	A	19970204	US 1993-146266	19931102
	WO 9512628	A1	19950511	WO 1994-US12322	19941028
	W: JP				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	US 5726282	A	19980310	US 1996-666039	19960619
	US 5814833	A	19980929	US 1996-674390	19960701
	US 5959070	A	19990928	US 1997-957029	19971024
PRAI	US 1993-146266		19931102		
	US 1994-187278		19940126		
	US 1996-666039		19960619		
AB	Exciplexes with good quantum efficiency in regard to luminescence and photogeneration of charge carriers and efficient generation of spectrally pure blue light are formed from .pi.-conjugated polymer such as poly(p-phenylenebenzobisoxazole) (I) and an electron donor or acceptor component. A typical I-tris(p-tolyl)amine (II) exciplex was prepd. by spin-coating a MeNO ₂ soln. of I and AlCl ₃ onto glass and fused silica substrates and overcoating with a CH ₂ Cl ₂ soln. contg. a 40:60 II-bisphenol A polycarbonate mixt.				
ST	conjugated polymer electron donor exciplex; polyphenylenebenzobisoxazole tolylamine exciplex; acceptor electron conjugated polymer exciplex				
IT	Polymers, preparation RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (anthrazoline and thiophene group-contg.; conjugated polymer exciplexes with good luminescence, photogeneration of charge carriers, generation of spectrally pure blue light)				
IT	Electron acceptors Electron donors Exciplex (conjugated polymer exciplexes with good luminescence, photogeneration of charge carriers, generation of spectrally pure blue light)				
IT	Polybenzimidazoles Polybenzothiazoles RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (conjugated polymer exciplexes with good luminescence, photogeneration of charge carriers, generation of spectrally pure blue light)				
IT	Ladder polymers Polybenzoxazoles RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses) (conjugated polymer exciplexes with good luminescence, photogeneration of charge carriers, generation of spectrally pure blue light)				
IT	Polyquinolines RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)				

- (polyacetylene-; conjugated polymer exciplexes with good luminescence, photogeneration of charge carriers, generation of spectrally pure blue light)
- IT Fluoropolymers, preparation
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyacetylene-polyquinoline-; conjugated polymer exciplexes with good luminescence, photogeneration of charge carriers, generation of spectrally pure blue light)
- IT Polyacetylenes, preparation
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyquinoline-; conjugated polymer exciplexes with good luminescence, photogeneration of charge carriers, generation of spectrally pure blue light)
- IT 68089-33-8P 141727-98-2P 141727-99-3P 143104-77-2P 143104-78-3P
149273-94-9P 149274-18-0P 160565-97-9P 160565-98-0P 160565-99-1P
160566-00-7P 160566-01-8P 161871-63-2P 161926-39-2P 161926-40-5P
161926-41-6P 170484-11-4P 187731-42-6P
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(conjugated polymer exciplexes with good luminescence, photogeneration of charge carriers, generation of spectrally pure blue light)
- IT 90940-20-8P 101661-86-3P 101707-52-2P **135614-64-1P**
135663-13-7P 135695-37-3P 137059-47-3P 137059-50-8P
137059-51-9P **137059-52-0P** 137059-55-3P 137091-73-7P
137091-74-8P 137091-77-1P 137145-33-6P 137145-34-7P
137145-35-8P 137175-34-9P 146248-15-9P 146248-16-0P 146248-17-1P
146248-18-2P 146248-19-3P 146248-20-6P 146248-21-7P
146248-22-8P 147320-04-5P 147320-08-9P
147320-10-3P 152328-01-3P 152328-02-4P 152328-03-5P
153643-22-2P 153643-23-3P 160566-05-2P 160566-06-3P 162431-42-7P
162431-43-8P 162431-44-9P **162431-45-0P 162431-47-2P**
162431-48-3P 162431-50-7P 170484-01-2P
170484-09-0P 187731-39-1P 187731-40-4P 187731-41-5P 187731-43-7P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(conjugated polymer exciplexes with good luminescence, photogeneration of charge carriers, generation of spectrally pure blue light)
- IT 1159-53-1, Tris(p-tolylamine) 31851-25-9 32075-68-6 60871-72-9
69794-31-6 75454-67-0 90960-37-5
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(conjugated polymer exciplexes with good luminescence, photogeneration of charge carriers, generation of spectrally pure blue light)
- IT 91-66-7, N,N-Diethylaniline 121-69-7, N,N-Dimethylaniline, uses
16012-31-0, Tris(p-dimethylaminophenyl)amine 65181-78-4
RL: TEM (Technical or engineered material use); USES (Uses)
(conjugated polymer exciplexes with good luminescence, photogeneration of charge carriers, generation of spectrally pure blue light)
- IT 728-21-2P 94752-10-0P 147612-41-7P 147612-42-8P 147612-43-9P
147612-45-1P 147612-46-2P 170484-00-1P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(monomer precursor; conjugated polymer exciplexes with good luminescence, photogeneration of charge carriers, generation of spectrally pure blue light)
- IT 104-47-2, 4-Methoxyphenylacetonitrile 407-25-0, Trifluoroacetic anhydride 586-78-7, p-Bromonitrobenzene 994-71-8 1479-58-9

5370-25-2, 2-Acetyl-5-bromothiophene 14275-61-7 39859-36-4,
2-Amino-5-bromobenzophenone

RL: RCT (Reactant); RACT (Reactant or reagent)

(monomer precursor; conjugated polymer exciplexes with good
luminescence, photogeneration of charge carriers, generation of
spectrally pure blue light)

IT 18494-73-0P 137145-29-0P 145784-96-9P 147320-03-4P 147320-07-8P
162431-46-1P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
(Reactant or reagent)

(monomer; conjugated polymer exciplexes with good luminescence,
photogeneration of charge carriers, generation of spectrally pure blue
light)

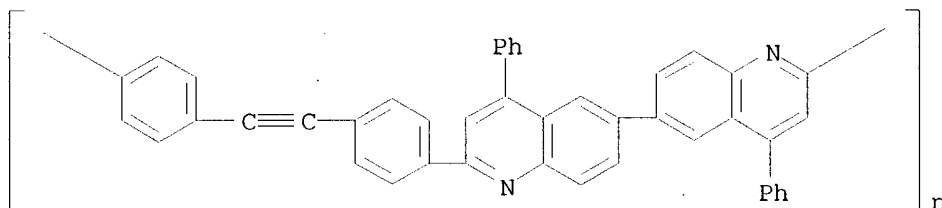
IT 135614-64-1P 135663-13-7P 135695-37-3P
137059-52-0P 137091-74-8P 146248-22-8P
147320-04-5P 147320-08-9P 147320-10-3P
162431-45-0P 162431-47-2P 162431-48-3P
162431-50-7P 170484-01-2P

RL: IMF (Industrial manufacture); TEM (Technical or engineered
material use); PREP (Preparation); USES (Uses)

(conjugated polymer exciplexes with good luminescence,
photogeneration of charge carriers, generation of spectrally pure blue
light)

RN 135614-64-1 HCAPLUS

CN Poly[(4,4'-diphenyl[6,6'-biquinoline]-2,2'-diyl)-1,4-phenylene-1,2-
ethynediyl-1,4-phenylene] (9CI) (CA INDEX NAME)



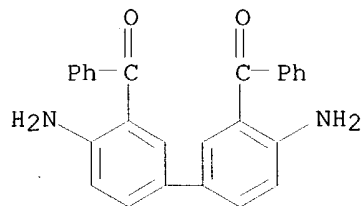
RN 135663-13-7 HCAPLUS

CN Ethanone, 1,1'-(1,2-ethynediyl-di-4,1-phenylene)bis-, polymer with
(4,4'-diamino[1,1'-biphenyl]-3,3'-diyl)bis[phenylmethanone] (9CI) (CA
INDEX NAME)

CM 1

CRN 71713-10-5

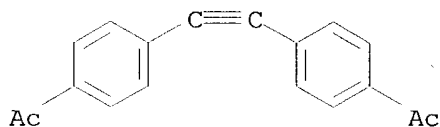
CMF C26 H20 N2 O2



CM 2

CRN 29619-42-9

CMF C18 H14 O2



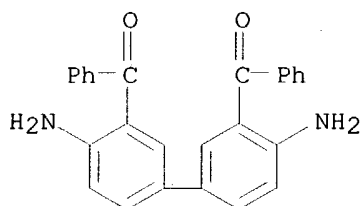
RN 135695-37-3 HCAPLUS

CN Ethanone, 1,1'-(1,2-ethenediyl-di-4,1-phenylene)bis-, polymer with (4,4'-diamino[1,1'-biphenyl]-3,3'-diyl)bis[phenylmethanone] and 1,1'-(1,2-ethynediyl-di-4,1-phenylene)bis[ethanone] (9CI) (CA INDEX NAME)

CM 1

CRN 71713-10-5

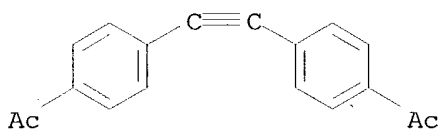
CMF C26 H20 N2 O2



CM 2

CRN 29619-42-9

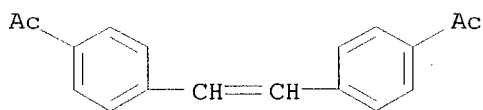
CMF C18 H14 O2



CM 3

CRN 6536-02-3

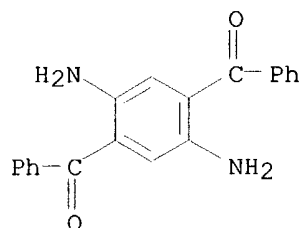
CMF C18 H16 O2



RN 137059-52-0 HCAPLUS
 CN Ethanone, 1,1'-(1,2-ethynediyl-di-4,1-phenylene)bis-, polymer with
 (2,5-diamino-1,4-phenylene)bis[phenylmethanone] (9CI) (CA INDEX NAME)

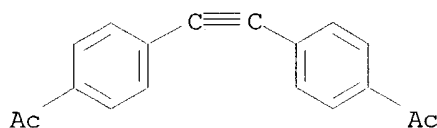
CM 1

CRN 38869-82-8
 CMF C20 H16 N2 O2

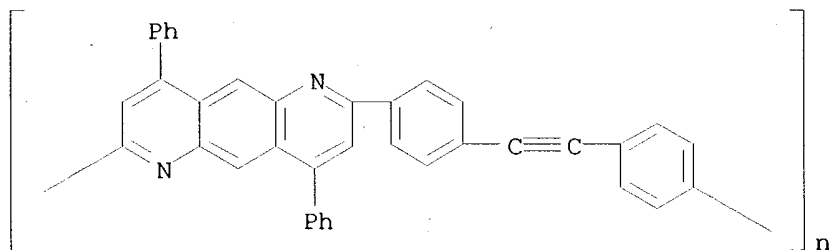


CM 2

CRN 29619-42-9
 CMF C18 H14 O2



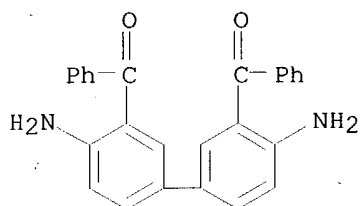
RN 137091-74-8 HCAPLUS
 CN Poly[(4,9-diphenylpyrido[2,3-g]quinoline-2,7-diyl)-1,4-phenylene-1,2-ethynediyl-1,4-phenylene] (9CI) (CA INDEX NAME)



RN 146248-22-8 HCAPLUS
 CN Ethanone, 1,1'-[1,1'-biphenyl]-4,4'-diylbis-, polymer with
 (4,4'-diamino[1,1'-biphenyl]-3,3'-diyl)bis[phenylmethanone] and
 1,1'-(1,2-ethynediyl-di-4,1-phenylene)bis[ethanone] (9CI) (CA INDEX NAME)

CM 1

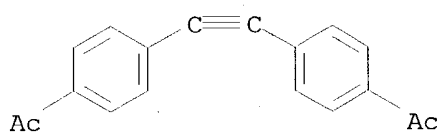
CRN 71713-10-5
 CMF C26 H20 N2 O2



CM 2

CRN 29619-42-9

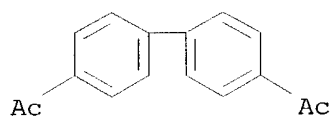
CMF C18 H14 O2



CM 3

CRN 787-69-9

CMF C16 H14 O2



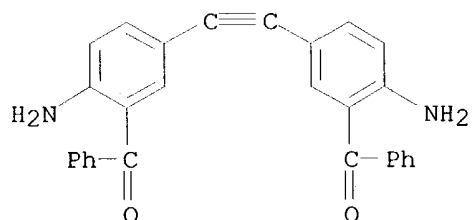
RN 147320-04-5 HCAPLUS

CN Ethanone, 1,1'-[2,2'-bithiophene]-5,5'-diylbis-, polymer with
[1,2-ethynediylbis(6-amino-3,1-phenylene)]bis[phenylmethanone] (9CI) (CA
INDEX NAME)

CM 1

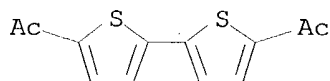
CRN 147320-03-4

CMF C28 H20 N2 O2



CM 2

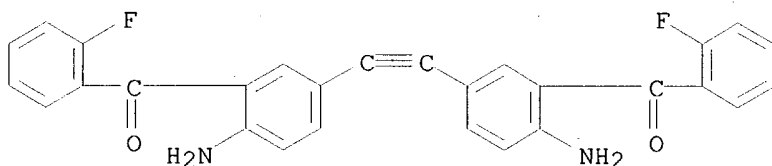
CRN 18494-73-0
CMF C12 H10 O2 S2



RN 147320-08-9 HCAPLUS
CN Ethanone, 1,1'-[2,2'-bithiophene]-5,5'-diylbis-, polymer with
[1,2-ethynediylbis(6-amino-3,1-phenylene)]bis[(2-fluorophenyl)methanone],
(9CI) (CA INDEX NAME)

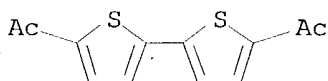
CM 1

CRN 147320-07-8
CMF C28 H18 F2 N2 O2



CM 2

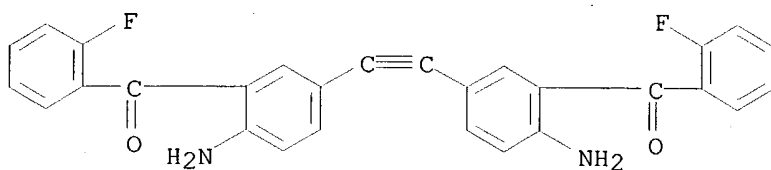
CRN 18494-73-0
CMF C12 H10 O2 S2



RN 147320-10-3 HCAPLUS
CN Ethanone, 1,1'-[2,2'-bithiophene]-5,5'-diylbis-, polymer with
(4,4'-diamino[1,1'-biphenyl]-3,3'-diyl)bis[phenylmethanone] and
[1,2-ethynediylbis(6-amino-3,1-phenylene)]bis[(2-fluorophenyl)methanone]
(9CI) (CA INDEX NAME)

CM 1

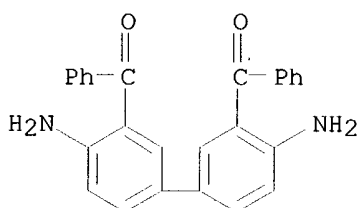
CRN 147320-07-8
CMF C28 H18 F2 N2 O2



CM 2

CRN 71713-10-5

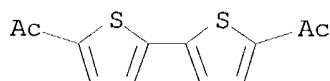
CMF C26 H20 N2 O2



CM 3

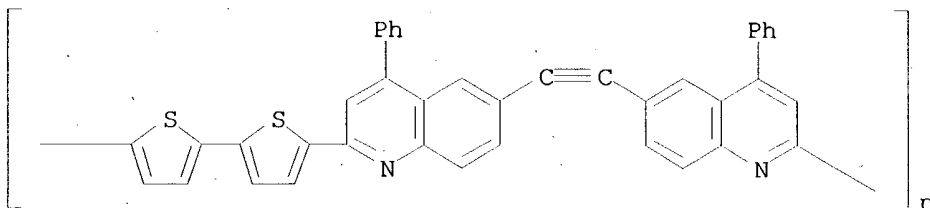
CRN 18494-73-0

CMF C12 H10 O2 S2



RN 162431-45-0 HCAPLUS

CN Poly[(4-phenyl-2,6-quinolinediyl)-1,2-ethynediyl(4-phenyl-6,2-quinolinediyl)[2,2'-bithiophene]-5,5'-diyl] (9CI) (CA INDEX NAME)

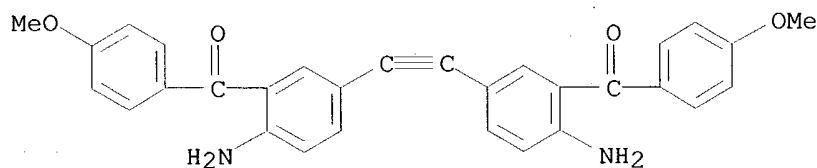


RN 162431-47-2 HCAPLUS

CN Ethanone, 1,1'-[2,2'-bithiophene]-5,5'-diylbis-, polymer with [1,2-ethynediylbis(6-amino-3,1-phenylene)]bis[(4-methoxyphenyl)methanone] (9CI) (CA INDEX NAME)

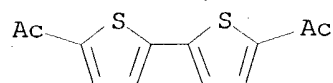
CM 1

CRN 162431-46-1
CMF C30 H24 N2 O4

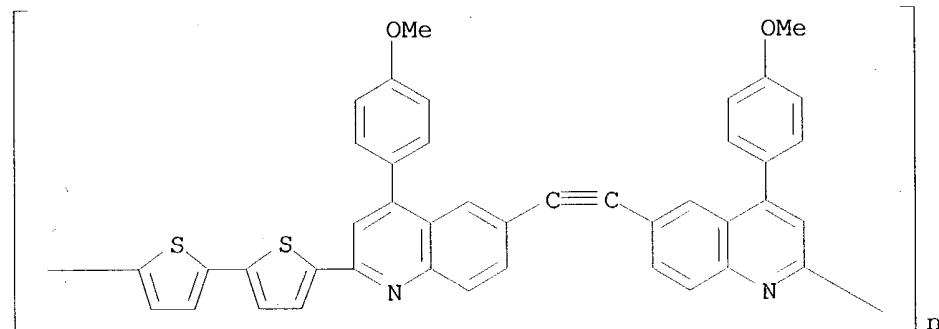


CM 2

CRN 18494-73-0
CMF C12 H10 O2 S2



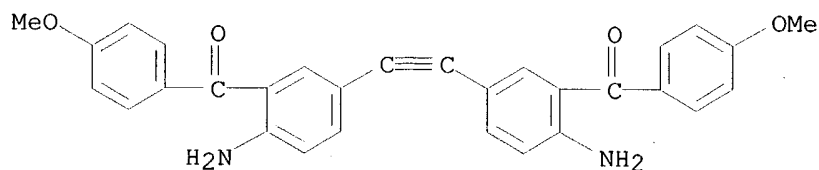
RN 162431-48-3 HCAPLUS
CN Poly[[4-(4-methoxyphenyl)-2,6-quinolinediyl]-1,2-ethynediyl[4-(4-methoxyphenyl)-6,2-quinolinediyl][2,2'-bithiophene]-5,5'-diyl] (9CI) (CA INDEX NAME)



RN 162431-50-7 HCAPLUS
CN Ethanone, 1,1'-[2,2'-bithiophene]-5,5'-diylbis-, polymer with (4,4'-diamino[1,1'-biphenyl]-3,3'-diyl)bis[phenylmethanone] and [1,2-ethynediylbis(6-amino-3,1-phenylene)]bis[(4-methoxyphenyl)methanone] (9CI) (CA INDEX NAME)

CM 1

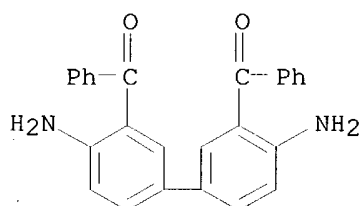
CRN 162431-46-1
CMF C30 H24 N2 O4



CM 2

CRN 71713-10-5

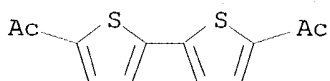
CMF C26 H20 N2 O2



CM 3

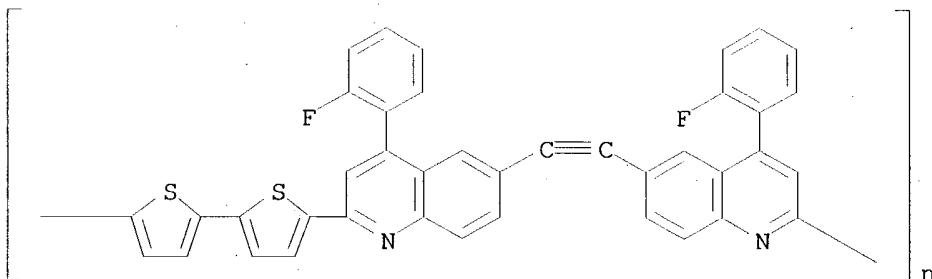
CRN 18494-73-0

CMF C12 H10 O2 S2



RN 170484-01-2 HCAPLUS

CN Poly[[4-(2-fluorophenyl)-2,6-quinolinediyl]-1,2-ethynediyl[4-(2-fluorophenyl)-6,2-quinolinediyl][2,2'-bithiophene]-5,5'-diyl] (9CI) (CA INDEX NAME)



L26 ANSWER 35 OF 38 HCAPLUS COPYRIGHT 2002 ACS

AN 1995:347401 HCAPLUS

DN 122:146662

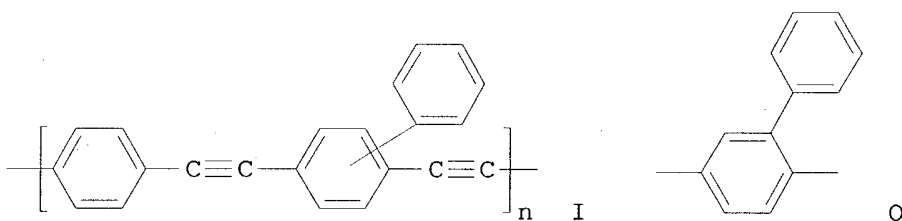
KATHLEEN FULLER EIC 1700/LAW LIBRARY 308-4290

TI Linear phenylene-ethynylene-biphenylene-ethynylene polymer, its preparation, and its-containing light-emitting material
 IN Yamamoto, Ryuichi; Takagi, Masakazu
 PA Yamamoto Ryuichi, Japan; Tatsuta Densen Kk
 SO Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C08G061-00
 CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 35, 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06322078	A2	19941122	JP 1993-113286	19930514
	JP 3198365	B2	20010813		

GI



AB The polymer I is prepd. by dehydrohalogenation coupling reaction of XArX with HC.tplbond.CAr1C.tplbond.CH (X = halo; Ar, Ar1 = biphenylene-2,5-diyl, 1,4-C6H4; Ar .noteq. Ar1) in the presence of a Pd-Cu catalyst and an amine. The material consists of I. The material showed good heat resistance and chem. stability.

ST phenylene ethynylene biphenylene polymer luminescence; heat resistance phenylene ethynylene biphenylene polymer; chem stability phenylene ethynylene biphenylene polymer; dehydrohalogenation prepn phenylene ethynylene biphenylene polymer

IT Dehydrohalogenation
 Heat-resistant materials
 Luminescent substances
 (light-emitting material contg. phenylene-ethynylene-biphenylene polymer and its prepn. by dehydrohalogenation coupling reaction)

IT 121-44-8, uses 1335-23-5, Copper iodide 14221-01-3, Tetrakis(triphenylphosphine)palladium
 RL: CAT (Catalyst use); USES (Uses)
 (dehydrohalogenation catalyst; light-emitting material contg. phenylene-ethynylene-biphenylene polymer and its prepn. by dehydrohalogenation coupling reaction)

IT **160888-97-1P** 161246-17-9P
 RL: **IMF (Industrial manufacture)**; PRP (Properties); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
 (light-emitting material contg. phenylene-ethynylene-biphenylene polymer and its prepn. by dehydrohalogenation coupling reaction)

IT **160888-97-1P**
 RL: **IMF (Industrial manufacture)**; PRP (Properties); TEM

(Technical or engineered material use); **PREP (Preparation)**; USES
(Uses)

(**light-emitting** material contg.

phenylene-ethynylene-biphenylene polymer and its prepn. by
dehydrohalogenation coupling reaction)

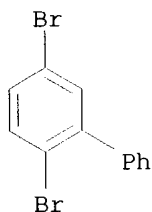
RN 160888-97-1 HCAPLUS

CN 1,1'-Biphenyl, 2,5-dibromo-, polymer with 1,4-diethynylbenzene (9CI) (CA
INDEX NAME)

CM 1

CRN 57422-77-2

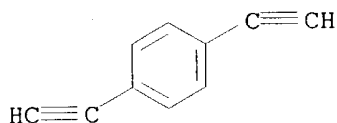
CMF C12 H8 Br2



CM 2

CRN 935-14-8

CMF C10 H6



L26 ANSWER 36 OF 38 HCAPLUS COPYRIGHT 2002 ACS

AN 1995:347400 HCAPLUS

DN 122:146661

TI Linear phenylene-ethynylene-xylylene-ethynylene polymer, its preparation,
and its-containing light-emitting material

IN Yamamoto, Ryuichi; Takagi, Masakazu

PA Yamamoto Ryuichi, Japan; Tatsuta Densen Kk

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08G061-00

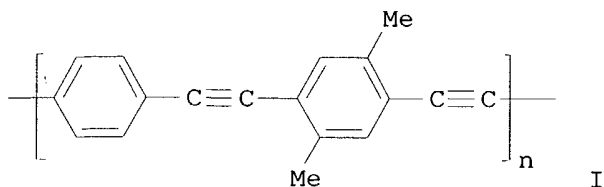
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related
Properties)

Section cross-reference(s): 35, 38

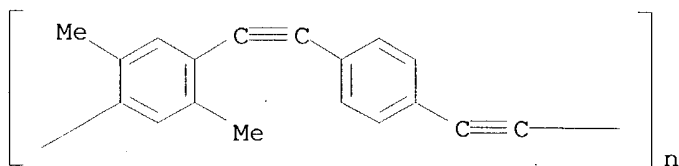
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06322077	A2	19941122	JP 1993-113279	19930514
	JP 3141221	B2	20010305		

GI



- AB The polymer I is prepd. by dehydrohalogenation coupling reaction of XArX with HC.tplbond.CAr1C.tplbond.CH (X = halo; Ar, Ar1 = 2,5-xylylene-1,4-diyl, 1,4-C6H4; Ar .noteq. Ar1) in the presence of a Pd-Cu catalyst and an amine. The material consists of I. The material showed good heat resistance and chem. stability.
- ST phenylene ethynylene xylylene polymer luminescence; heat resistance phenylene ethynylene xylylene polymer; chem stability phenylene ethynylene xylylene polymer; dehydrohalogenation prepn phenylene ethynylene xylylene polymer
- IT Dehydrohalogenation
Heat-resistant materials
Luminescent substances
(light-emitting material contg. phenylene-ethynylene-xylylene polymer and its prepn. by dehydrohalogenation coupling reaction)
- IT 110-89-4, Piperidine, uses 1335-23-5, Copper iodide 14221-01-3, Tetrakis(triphenylphosphine)palladium
RL: CAT (Catalyst use); USES (Uses)
(dehydrohalogenation catalyst; light-emitting material contg. phenylene-ethynylene-xylylene polymer and its prepn. by dehydrohalogenation coupling reaction)
- IT 122483-16-3P 160888-96-0P
RL: IMF (Industrial manufacture); PRP (Properties); TEM
(Technical or engineered material use); PREP (Preparation); USES (Uses)
(light-emitting material contg. phenylene-ethynylene-xylylene polymer and its prepn. by dehydrohalogenation coupling reaction)
- IT 122483-16-3P 160888-96-0P
RL: IMF (Industrial manufacture); PRP (Properties); TEM
(Technical or engineered material use); PREP (Preparation); USES (Uses)
(light-emitting material contg. phenylene-ethynylene-xylylene polymer and its prepn. by dehydrohalogenation coupling reaction)
- RN 122483-16-3 HCAPLUS
- CN Poly[(2,5-dimethyl-1,4-phenylene)-1,2-ethynediyl-1,4-phenylene-1,2-ethynediyl] (9CI) (CA INDEX NAME)



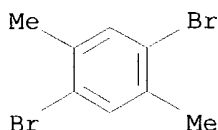
RN 160888-96-0 HCAPLUS

CN Benzene, 1,4-dibromo-2,5-dimethyl-, polymer with 1,4-diethynylbenzene
(9CI) (CA INDEX NAME)

CM 1

CRN 1074-24-4

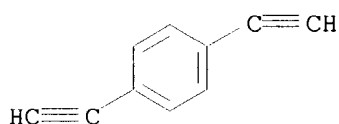
CMF C8 H8 Br2



CM 2

CRN 935-14-8

CMF C10 H6



L26 ANSWER 37 OF 38 HCAPLUS COPYRIGHT 2002 ACS

AN 1995:293871 HCAPLUS

DN 122:106787

TI Linear poly(arylene-ethynylene-arylene-ethynylenes) and manufacture thereof and luminescent materials and color display materials using the same

IN Yamamoto, Ryuichi; Takagi, Masakazu

PA Tatsuta Densen K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08G061-00

CC 35-4 (Chemistry of Synthetic High Polymers)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06166743	A2	19940614	JP 1993-114923	19930517
	JP 3252336	B2	20020204		
PRAI	JP 1992-264878	A	19921002		

AB The title polymers have the general formula (AC.tplbond.CAr'C.tplbond.C)n (Ar, Ar' = divalent arom. ring, with .gtoreq.1 of Ar and Ar' being 2,5-pyridinediyl or divalent arom. group contg. alkyl group; n = 10-1000). Dibromopyridine, diethynylpyridine, Pd(Ph3P)4, Cu iodide, Et3N, and toluene were stirred at 70.degree. for 1 h to give a polymer with decompn. temp. 300.degree..

ST luminescent arylenethynylene polymer heat resistant;
pyridinylenethynylene polymer heat resistant; functional material
pyridinylenethynylene polymer

IT Polymerization

(by dehydrobromination coupling)

IT Heat-resistant materials
Optical imaging devices
Polymerization catalysts
(linear poly(arylene-ethynylene-arylene-ethynylenes) for luminescent materials and color displays)

IT Polyacetylenes, preparation
RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)
(linear poly(arylene-ethynylene-arylene-ethynylenes) for luminescent materials and color displays)

IT Luminescent substances
(chemi-, linear poly(arylene-ethynylene-arylene-ethynylenes) for luminescent materials and color displays)

IT 1335-23-5, Copper iodide 14221-01-3, Tetrakis(triphenylphosphine)palladium
um
RL: CAT (Catalyst use); USES (Uses)
(linear poly(arylene-ethynylene-arylene-ethynylenes) for luminescent materials and color displays)

IT 149012-00-0P 149093-62-9P 149174-95-8P, Poly(pyridinediyl-1,2-ethynediyl) 160173-98-8P **160173-99-9P** 160174-00-5P 160174-01-6P **160174-02-7P** 160174-03-8P, Poly(2,5-pyridinediyl-1,2-ethynediyl) 160219-93-2P
RL: DEV (Device component use); **IMF (Industrial manufacture)**;
PRP (Properties); **PREP (Preparation)**; USES (Uses)
(linear poly(arylene-ethynylene-arylene-ethynylenes) for luminescent materials and color displays)

IT **160173-99-9P 160174-02-7P**
RL: DEV (Device component use); **IMF (Industrial manufacture)**;
PRP (Properties); **PREP (Preparation)**; USES (Uses)
(linear poly(arylene-ethynylene-arylene-ethynylenes) for luminescent materials and color displays)

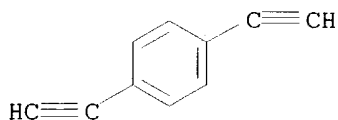
RN 160173-99-9 HCAPLUS

CN Pyridine, 2,5-dibromo-, polymer with 1,4-diethynylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 935-14-8

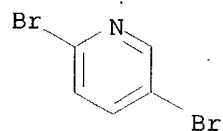
CMF C10 H6



CM 2

CRN 624-28-2

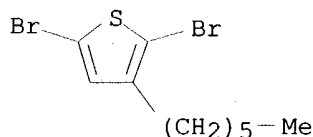
CMF C5 H3 Br2 N



RN 160174-02-7 HCAPLUS
 CN Thiophene, 2,5-dibromo-3-hexyl-, polymer with 1,4-diethynylbenzene (9CI)
 (CA INDEX NAME)

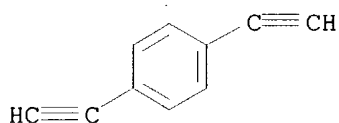
CM 1

CRN 116971-11-0
 CMF C10 H14 Br2 S



CM 2

CRN 935-14-8
 CMF C10 H6

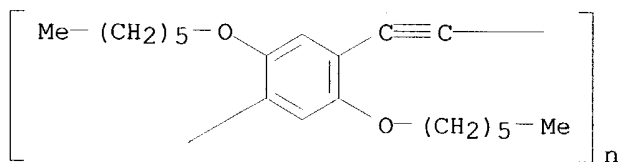


L26 ANSWER 38 OF 38 HCAPLUS COPYRIGHT 2002 ACS
 AN 1995:234708 HCAPLUS
 DN 122:20065
 TI Fabrication of poly(p-phenyleneacetylene) light-emitting diodes
 IN Shinar, Joseph; Swanson, Leland S.; Lu, Feng; Ding, Yiwei
 PA Iowa State University Research Foundation, Inc., USA
 SO U.S., 15 pp.
 CODEN: USXXAM
 DT Patent
 LA English
 IC ICM H01L021-00
 ICS H01L021-02; H01L029-28
 NCL 437001000
 CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 38, 76
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5334539	A	19940802	US 1993-11391	19930129
AB	Methods for producing a polymer-based light-emitting diode entails: (a)				

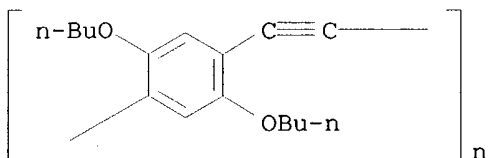
providing a hole-injecting electrode; (b) coating the hole-injecting electrode with a layer of a conjugated polymer to form a conjugated polymer-coated hole-injecting electrode; (c) coating the conjugated polymer-coated hole-injecting electrode with a layer of an electron-injecting material to form an electron-injecting electrode; wherein the hole-injecting electrode, polymer layer, and electron-injecting electrode form a polymer-based light-emitting diode (LED); and (d) annealing the polymer-based LED at a temp. and for a period of time effective to reduce the electroluminescence threshold voltage by at least about 20%. Preferably, the polymer is a poly(p-phenyleneacetylene). The diodes are more stable than prior art diodes employing polymers.

- ST phenyleneacetylene polymer light emitting diode fabrication; LED fabrication phenyleneacetylene polymer
- IT Electroluminescent devices
(fabrication of poly(p-phenyleneacetylene) light-emitting diodes)
- IT Polyacetylenes, uses
RL: DEV (Device component use); USES (Uses)
(phenylene; fabrication of poly(p-phenyleneacetylene) light-emitting diodes)
- IT 7429-90-5, Aluminum, uses
RL: DEV (Device component use); USES (Uses)
(fabrication of poly(p-phenyleneacetylene) light-emitting diodes)
- IT 128340-21-6P 145130-55-8P 152270-13-8P
153033-24-0P 153033-25-1P 153033-28-4P
153033-30-8P 153033-32-0P 153033-33-1P
153033-35-3P
RL: DEV (Device component use); SPN (Synthetic preparation);
PREP (Preparation); USES (Uses)
(fabrication of poly(p-phenyleneacetylene) light-emitting diodes)
- IT 104-36-9, 1,4-Dibutoxybenzene 32527-64-3 67399-93-3 67399-94-4
129236-97-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(fabrication of poly(p-phenyleneacetylene) light-emitting diodes)
- IT 128424-37-3P 128834-29-7P 145483-68-7P 145483-70-1P 150086-27-4P
153033-26-2P 153033-27-3P 153033-29-5P 153033-31-9P 153033-34-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(fabrication of poly(p-phenyleneacetylene) light-emitting diodes)
- IT 128340-21-6P 145130-55-8P 152270-13-8P
153033-24-0P 153033-25-1P 153033-28-4P
153033-30-8P 153033-32-0P 153033-33-1P
153033-35-3P
RL: DEV (Device component use); SPN (Synthetic preparation);
PREP (Preparation); USES (Uses)
(fabrication of poly(p-phenyleneacetylene) light-emitting diodes)
- RN 128340-21-6 HCAPLUS
- CN Poly[[2,5-bis(hexyloxy)-1,4-phenylene]-1,2-ethynediyl] (9CI) (CA INDEX NAME)



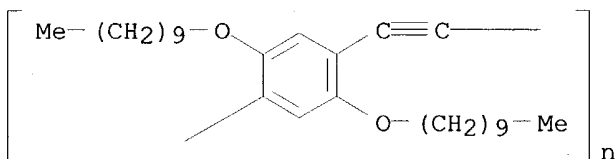
RN 145130-55-8 HCAPLUS

CN Poly[(2,5-dibutoxy-1,4-phenylene)-1,2-ethynediyl] (9CI) (CA INDEX NAME)



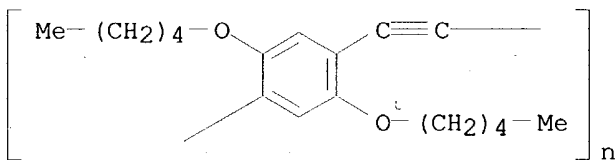
RN 152270-13-8 HCAPLUS

CN Poly[[2,5-bis(decyloxy)-1,4-phenylene]-1,2-ethynediyl] (9CI) (CA INDEX NAME)



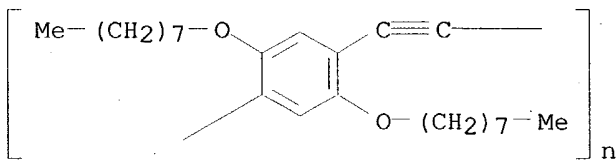
RN 153033-24-0 HCAPLUS

CN Poly[[2,5-bis(pentyloxy)-1,4-phenylene]-1,2-ethynediyl] (9CI) (CA INDEX NAME)



RN 153033-25-1 HCAPLUS

CN Poly[[2,5-bis(octyloxy)-1,4-phenylene]-1,2-ethynediyl] (9CI) (CA INDEX NAME)



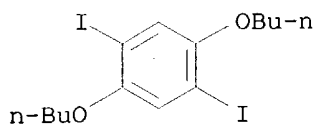
RN 153033-28-4 HCAPLUS

CN Benzene, 1,4-dibutoxy-2,5-diethynyl-, polymer with 1,4-dibutoxy-2,5-diiodobenzene (9CI) (CA INDEX NAME)

CM 1

CRN 145483-70-1

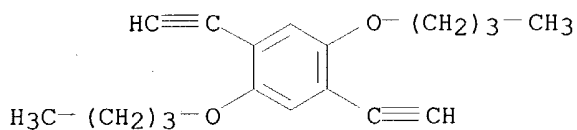
CMF C14 H20 I2 O2



CM 2

CRN 128834-29-7

CMF C18 H22 O2



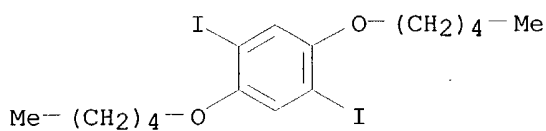
RN 153033-30-8 HCAPLUS

CN Benzene, 1,4-diethynyl-2,5-bis(pentyloxy)-, polymer with 1,4-diiodo-2,5-bis(pentyloxy)benzene (9CI) (CA INDEX NAME)

CM 1

CRN 153033-29-5

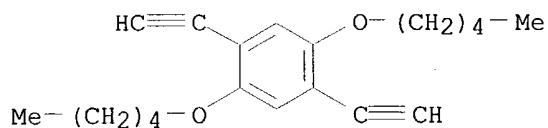
CMF C16 H24 I2 O2



CM 2

CRN 153033-26-2

CMF C20 H26 O2



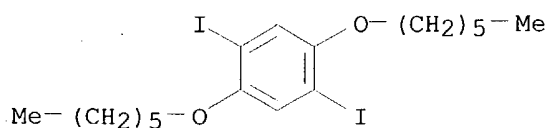
RN 153033-32-0 HCAPLUS

CN Benzene, 1,4-diethynyl-2,5-bis(hexyloxy)-, polymer with 1,4-bis(hexyloxy)-2,5-diiodobenzene (9CI) (CA INDEX NAME)

CM 1

CRN 153033-31-9

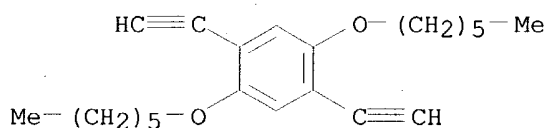
CMF C18 H28 I2 O2



CM 2

CRN 128424-37-3

CMF C22 H30 O2



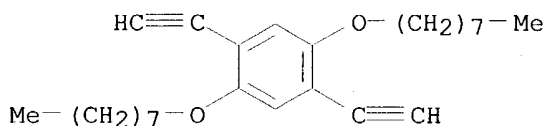
RN 153033-33-1 HCAPLUS

CN Benzene, 1,4-diethynyl-2,5-bis(octyloxy)-, polymer with 1,4-diiodo-2,5-bis(octyloxy)benzene (9CI) (CA INDEX NAME)

CM 1

CRN 153033-27-3

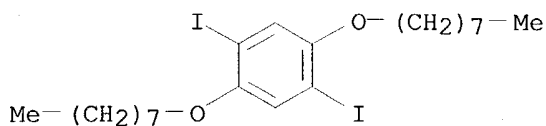
CMF C26 H38 O2



CM 2

CRN 145483-68-7

CMF C22 H36 I2 O2

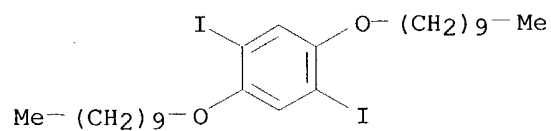


RN 153033-35-3 HCAPLUS

CN Benzene, 1,4-bis(decyloxy)-2,5-diethynyl-, polymer with 1,4-bis(decyloxy)-2,5-diiodobenzene (9CI) (CA INDEX NAME)

CM 1

CRN 153033-34-2
CMF C26 H44 I2 O2



CM 2

CRN 150086-27-4
CMF C30 H46 O2

